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PAPER MERCHANT PERFORMANCE

PAPER MERCHANT PERFORMANCE FOR THE YEAR 1986



NATIONAL PAPER TRADE ASSOCIATION, inc.

1987

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PAPER MERCHANT PERFORMANCE FOR THE YEAR 1986

PAPER MERCHANT PERFORMANCE TRENDS FOR THE YEARS 1975-1986



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INTRODUCTION:

PAPER MERCHANT PERFORMANCE FOR THE YEAR 1986

Paper Merchant Performance for the year 1986 reports the results of a survey of the operations of participating members of the National Paper Trade Association (NPTA) for the calendar year 1986. The survey was designed by the Management Information Committee of the NPTA and Management Foresight, Inc. (MFI) of Columbus, Ohio. Confidential survey forms were sent directly to MFI by participating firms. MFI then checked and cleaned up the data and produced confidential, individual company reports and *Industry Performance Surveys* (IPS). The information appearing here has been derived from the IPS. This is the tenth consecutive year in which MFI produced the survey for the NPTA.

This edition of *Paper Merchant Performance* reports merchant performance information from 1975-86. The text of this report is organized into four chapters according to commodity groupings that are explained in each chapter.

244 firms, regional divisions and/or branches submitted survey forms. The participating firms represented over \$9.4 billion dollars in 1986 sales. (See Appendix A for sales characteristics of the participants).

As in the past, each survey participant received a confidential, individualized Performance Analysis Report (PAR) which compared that firm's performance to the performances of similar groups of firms in the industry. Each PAR contains extensive operational and performance results for the individual firm and for the industry.

The report is organized into four chapters, by type commodity sold:

- 1) Overall Paper Merchant Performance and Personnel Productivity
- 2) Printing Paper Merchant Performance
- 3) Industrial Paper Merchant Performance
- 4) Dual Paper Merchant Performance

Most financial performance measures in the exhibits and tables are in the form of "composite means" with a smaller number expressed in "medians" and "weighted means". These are defined in more detail in the appendix.

This year, new sections have been added to the chapters regarding Industrial Paper and Dual merchant performance — for performance by Customer Market Segment. The industrial paper market is much more diverse in terms of products and customers than printing paper. An industrial merchant may specialize in selling to any or all of the following markets: food service, industrial manufacturers, retail matched packaging, janitorial supplies, other products (i.e. health care disposables, Government sales, etc.). Or, the firm may be a "full-line" distributor.

This first year of collection of such market information yielded data presented in six new exhibits and tables (Exhibits 14, 20, Tables 3D, 4D, 7, 8). Performance by customer group is discussed within the industrial paper and dual merchant chapters, in response to industrial members' concerns that the survey be made more relevant to their operations.

The basic format for each chapter is a presentation and discussion of roughly forty key financial management measures of a printing paper, industrial paper, or dual paper merchant group's performance. In its fullest extent, the PAR survey produces over 300 measures, and members participating in the survey receive in their PAR report much more information than that contained within the consolidated report entitled *Paper Merchant Performance*. For information about how your company can participate in the survey, please contact the Research Director at (516) 829-3070.

CHAPTER ONE:

OVERALL PAPER MERCHANT PERFORMANCE

SUMMARY

The NPIA's members distribute industrial and printing paper products; some members specialize in one or the other commodity line; others distribute both commodity lines. With this three-way division in product emphasis, the NPTA recognizes three major groups of paper merchants, namely, printing paper merchants, industrial paper merchants, and dual paper merchants. This chapter reports summary performance for each of these major groups. The three major groups are discussed in detail in later chapters. (See Appendix A for the characteristics of the major groups of firms and Appendix B for a statement of the survey's methodology.)

Merchants use three different methods to distribute paper, and each method involves different functions. This survey studies distribution methods as sales paths, namely, as warehouse sales, indirect and direct sales. *Warehouse* sales are sales of products from inventory in the merchant's warehouse. The merchant's prices and profit margins on warehouse sales contain factors covering the storage, handling, delivery, selling and administrative functions involved. *Indirect* sales are sales of products that the merchant receives

from the manufacturer and immediately delivers to his customers without adding them to inventory. The merchant's prices and margins on indirect sales contain factors covering handling, delivery, selling and administrative functions involved. *Direct* sales are sales of products shipped from the manufacturer to the merchant's customer. The merchant's prices and margins on direct sales contain factors to cover the delivery, selling and administrative functions involved. Sales path margins are reported in the section on profit margin management.

Paper merchants in general have expressed a keen interest in the topic of sales compensation during recent years. As the cost of a typical sales call continues to escalate, increased productivity in the inside and outside salesforce becomes an essential ingredient to better profitability and efficiency.

To address this request for sales department compensation and productivity information, a new section was added to the 1984 report, and is continued with the 1987 edition. Key sales department (inside & outside sales personnel)

EXHIBIT 1

MAJOR MERCHANT GROUPS' SALES VOLUME CHANGES AND PRODUCER & CONSUMER PRICE CHANGES

(Percent Change Over Prior Year)

SALES VOLUME CHANGES ¹	1980	1981	1982	1983	1984	1985	1986
ALL PRINTING FIRMS (%)	7.5	7.9	4.9	14.6	24.5	5.6	6.5
ALL INDUSTRIAL FIRMS (%)	11.8	11.3	3.5	8.3	11.8	7.6	7.2
ALL DUAL FIRMS (%)	11.5	8.4	-4.2	6.5	14.3	1.4	3.6
PRICE INDEX CHANGES ²							
PRINTING PPI (%) ³	7.1	11.2	-1.9	3.1	5.2	-2.1	+0.5
INDUSTRIAL PPI (%) ⁴	10.3	7.6	0.6	1.2	5.3	-1.3	+0.4
URBAN CPI (%) ⁵	12.4	8.9	3.9	3.8	4.0	+3.8	+1.1

INDEX SOURCE: Bureau of Labor Statistics, U.S. Department of Labor

¹All values based on computation of composite averages; see Appendix B regarding such averages.

²The calculated changes reflect December to December variations.

³The Printing PPI is the code group 091301, namely, Paper, except Newsprint. The code group 091301 includes printing paper, book paper, bond wrapping paper, sack paper, butcher's paper and wax paper.

⁴The Industrial PPI is the code group 0915, namely, Converted Paper and Paperboard Products. The code group 0915 includes sanitary papers & health products (tissues, towels & napkins), paper bags & shipping sacks, paper boxes and containers, tape, office supplies & accessories and composite cans.

⁵The Urban CPI is the Consumer Price Index for All Urban Consumers.

EXHIBIT 2
PROFIT MODEL PERFORMANCE¹
(Composite Average Values)²

GROUPS OF PAPER MERCHANT FIRMS		(1)	×	(2)	=	(3)	×	(4)	=	(5)	(6)
		NET PROFIT		NET SALES		NET PROFIT		TOTAL ASSETS		NET PROFIT	RETURN ON
		BEFORE TAX		TOTAL ASSETS		BEFORE TAX		NET WORTH		BEFORE TAX	CAPITAL
		NET SALES				TOTAL ASSETS				NET WORTH	EMPLOYED ³
		(%)		(X)		(%)		(X)		(%)	(%)
ALL PRINTING PAPER FIRMS	1986	2.18		4.06		8.59		2.01		17.41	14.77
	1985	2.54		4.12		10.39		1.91		20.04	17.92
	1984	2.63		4.63		12.20		2.04		25.29	21.28
	1983	2.30		4.09		9.40		1.96		18.79	17.27
	1982	2.10		4.58		9.67		1.82		18.04	17.97
ALL INDUSTRIAL PAPER FIRMS	1986	2.08		3.96		8.18		1.83		15.21	13.44
	1985	2.06		3.94		8.15		1.92		15.62	14.60
	1984	1.96		4.18		8.20		1.80		15.02	13.32
	1983	2.19		3.95		8.64		1.89		16.57	13.97
	1982	1.64		4.20		6.86		1.92		13.48	12.59
ALL DUAL PAPER FIRMS	1986	2.32		3.95		9.03		1.60		14.52	12.99
	1985	2.72		4.16		11.06		1.54		17.15	14.56
	1984	2.56		4.72		12.08		1.68		23.16	21.41
	1983	2.50		4.30		10.74		1.76		20.41	18.20
	1982	2.23		4.70		10.58		1.96		20.86	18.24

¹See Appendix C for a discussion of the profit model.

²See Appendix B for a discussion of composite averages and Appendix D for definitions of measures.

³For an explanation of ROCE, see footnote 3, Page 9.

performance measures are displayed in Exhibit 3A, 3B, and 3C.

In addition, two new exhibits presenting sales department information have been added to the industrial merchant chapter (Exhibit 14) and dual merchant chapter (Exhibit 20). These exhibits present new information first collected via the 1987 survey, classified by customer or market groupings.

In many ways, 1986 was a carbon-copy of 1985 performance for paper distributors. Sales growth was moderate and profits were squeezed again, in the face of higher operating costs. There were no big improvements in asset management. Inflation heated up a little, but still remained very low, resulting in very good real growth. If one paper merchant group had to be picked as the "winner" of 1986, it would be the industrial merchants, who led in sales growth and profitability.

SALES PERFORMANCE

Sales growth for the paper distribution industry once again was moderate during 1986. As a whole, industry sales advanced by 5.6%. More importantly, real or inflation-adjusted gains were strong due to very low price increases of 0.5%. Paper merchants, like companies in other industries, are probably finding it difficult to adjust to the relatively low-

growth, low-inflation environment of the past several years. No doubt, some other "high tech" sectors will grow 15-20% yearly, but in a competitive "commodity product" business such as paper wholesaling, double-digit sales gains are very tough to achieve in a low-inflation scenario.

Industrial paper merchants again led the pack with 7.2% sales growth in 1986. Producer prices rose only 0.4%, leading to a real gain of 6.8% (vs. 8.9% in 1985). Printing paper sales were up 6.5%, a little better than the 5.6% of 1985. Inflation was only 0.5%, making for a real increase of 6% (vs. 7.7% in 1985). Once again dual merchants posted the smallest sales gain, 3.6% during 1986. This is approximately 3% in real terms. Interestingly, dual merchants had the lowest sales growth of the three groups in four of the past seven years. (See Exhibit 1 for 1980-86 sales growth and price indices.)

PROFITABILITY PERFORMANCE

Exhibit 2 displays the NPIA MFI profit model for printing, industrial and dual merchants from 1982-86. The model is explained in more detail in Appendix C and it examines profit management in three key areas: profit margin management (column 1), asset management (column 2), and financial management (column 4). Refer to Appendix D for definitions of these measures.

There are several important indicators merchants use to

measure how profitable their operations are, and their return on investment performance. Probably the most commonly tracked are Gross Trading Margins, Pre-Tax Profits relative to Sales, and Return on Total Assets. The main factors affecting profitability include: the management of operating expenses, sales and competitive market pressures, as well as individual company policies regarding owner-manager compensation.

ROTA (Return on Total Assets — net profit before tax as a percent of total assets) is a powerful financial measure in that it indicates the combined effects of how well a business is doing to achieve a satisfactory percentage net profit margin and in managing its asset investment. Therefore, ROTA is one of the single best measures of how a business is being managed operationally. It slipped from 10.39% to 8.59% for

printing paper houses, and from 11.06% to 9.03% for duals. The exception was industrial firms, whose ROTA rose from 8.15% to 8.18% in 1986.

RONW (Return on Net Worth — net profit before tax as percent net worth) is a comprehensive measure of a firm's net profit performance, its asset management performance, and its financial leverage position. RONW should not be examined in isolation but in view of *how* it was achieved — by operational efficiency or by an excessive use of debt instruments. This measure dipped significantly for printing paper firms (from 20.04% to 17.41%) and dual merchants (from 17.15% to 14.52%). RONW held up pretty well for industrial paper houses though, only slipping from 15.62% to 15.21%.

EXHIBIT 3A**PRINTING PAPER MERCHANTS***(All Data Are Medians)*

	1983	1984	1985	1986	Your Firm
OVERALL PRODUCTIVITY MEASURES					
Net Sales Per Employee (\$000)	\$354.9	\$409.4	\$407.0	\$419.6	
Gross Profit Per Employee (\$000)	56.8	61.7	65.1	67.2	
Total Compensation As % Gross Profit	56.5	55.2	54.4	55.5	
Personnel Productivity Index (all empl.) ¹	1.77	1.81	1.84	1.81	
SALES COMPENSATION MEASURES					
Overall Sales Department					
Sales Per Sales Dept. Employee (\$000)	\$782.1	\$958.2	\$943.6	\$1,018.1	
Gross Profit Per Sales Dept. Emp. (\$000)	127.8	141.0	149.3	153.4	
Sales Service & Selling Exp. As % Gross Profit	37.3	37.2	35.9	36.6	
Outside Sales Reps					
*Sales Per Outside Sales Rep (\$000)	\$1,217.0	\$1,489.8	\$1,477.7	\$1,633.4	
*Gross Profit Per Outside Sales Rep (\$000)	195.8	223.1	236.0	239.8	
*Avg. Pay & Travel Exp. (\$000)	41.5	45.1	47.8	49.4	
*Avg. Pay & Travel Exp. As % G.P. (%)	23.2	21.4	21.7	21.7	
Sales Service Personnel					
Sales Per Sales Service Emp. (\$000)	\$2,426	\$2,562	\$2,563	\$2,716.0	
Gross Profit Per Sales Service Emp. (\$000)	361.0	389.0	420.7	428.1	
Avg. Pay of Sales Service Emp. (\$000)	18.2	18.7	20.3	21.2	

¹The Personnel Productivity Index is defined as: gross profit per employee divided by average compensation per employee. This is a measure that compares the gross profit generated by your employees to the total compensation they earn during the period. Other things being equal, you should prefer a higher PPI value.

*Includes supervisors

EXHIBIT 3B
INDUSTRIAL PAPER MERCHANTS
(All Data Are Medians)

	1983	1984	1985	1986	Your Firm
OVERALL PRODUCTIVITY MEASURES					
Net Sales Per Employee (\$000)	\$199.4	\$210.6	\$214.4	\$202.8	
Gross Profit Per Employee (\$000)	44.4	45.4	47.5	49.0	
Total Compensation As % Gross Profit	64.1	64.5	66.4	66.0	
Personnel Productivity Index (all empl.) ¹	1.56	1.56	1.51	1.52	
SALES COMPENSATION MEASURES					
Overall Sales Department					
Sales Per Sales Dept. Employee (\$000)	\$495.0	\$538.1	\$533.0	\$488.5	
Gross Profit Per Sales Dept. Employee (\$000)	107.5	114.6	121.9	111.5	
Sales Service & Selling Exp. As % Gross Profit	38.9	39.4	38.5	37.4	
Outside Sales Reps					
*Sales Per Outside Sales Rep (\$000)	\$639.4	\$662.6	\$724.1	\$702.1	
*Gross Profit Per Outside Sales Rep (\$000)	148.6	149.7	161.8	164.8	
*Avg. Pay & Travel Exp. (\$000)	36.0	35.5	38.6	39.4	
*Avg. Pay & Travel Exp. As % G.P. (%)	24.1	23.4	23.3	23.7	
Sales Service Personnel					
Sales Per Sales Service Emp. (\$000)	\$2,120	\$2,332	\$2,266	\$1,894.0	
Gross Profit Per Sales Service Emp. (\$000)	451.8	472.0	474.1	417.2	
Avg. Pay of Sales Service Emp. (\$000)	15.9	15.6	16.4	16.2	

¹The personnel Productivity Index is defined as: gross profit per employee divided by average compensation per employee. This is a measure that compares the gross profit generated by your employees to the total compensation they earn during the period. Other things being equal, you should prefer a higher PPI value.

*Includes supervisors

Not surprisingly, "pre-tax profits as a percent of net sales" slid for the second consecutive year for printing and dual firms, dropping from 2.54% to 2.18% for printing and from 2.72% to 2.32% for dual. The exception was industrial houses, where net profits inched up to 2.08%, despite rising operating costs.

A good rule of thumb for RONW performance is that an average return should equal inflation plus 5%. With inflation for the economy overall at 1.1%, then the average RONW goal should be 6.1%. A high-performance goal would be inflation plus 10-12%. With lower inflation, companies should have expected ROTA to trend downward over the last few years. The slide in profitability and return on investment of the past few years is no doubt a combination of competitive market pressures that hold down product prices and a low-inflation environment.

PERSONNEL PRODUCTIVITY & SALES COMPENSATION
PRINTING PAPER MERCHANTS

Exhibit 3A shows that printing paper merchants posted the highest net sales per employee of all three merchant groups. Sales per employee rose 3% to \$419,600. Gross profits per

employee rose 3.2% to \$67,200, also highest of all merchants. Net sales and gross profits per employee are general indicators of employee efficiency. During years of inflation one should expect these measures to increase, but "sales per" ratios should be used with caution. For example, a company with a large amount of direct sales should have a high sales per employee figure. Conversely, a firm emphasizing warehouse sales should probably have lower sales per employee.

All things being equal, companies should prefer a rising "personnel productivity index" (see footnote to Exhibit 3A for definition). The PPI did not rise in 1986, but it did not drop much either, standing at 1.81. Total employee compensation jumped back up to 55.5% of gross profits. The printing paper PPI is still the best of all merchant groups.

The typical printing paper outside sales rep sold \$1.63 million of product in 1986, up a strong 10.5% over 1985. These reps generated \$239,800 each in gross profits, up 1.6%. Their average salary and expenses rose only 3.3% to \$49,400 and these expenses represented a stable 21.7% of gross profits compared to 1985. All in all, outside sales reps were very productive in printing paper firms, since the sales they generated rose at a faster rate than their pay.

Sales per sales service employee rose 5.9% to \$2.72 million in 1986, with gross profits per person up 1.7% to \$428,100. These sales service people's pay rose 4.4% to \$21,200 during 1986. Discretion should be used with these "sales per" ratios, since total company sales are divided by the actual number of sales reps or inside sales service people. Since there are invariably less sales service employees than sales reps, the "sales per" ratio will be higher.

INDUSTRIAL PAPER MERCHANTS

Exhibit 3B represents industrial paper merchants' overall and sales department productivity measures. Net sales per employee for these merchants fell 5.5% to \$202,800, the lowest figure since 1983 and lowest of all merchant groups. This

drop is certainly not a result of bad sales performance since revenues rose 7.2% in 1986. Therefore, these firms must have added staff. Gross profits per employee rose 3% to \$49,000 and total compensation relative to gross profit was cut about 1% to 66%, a good sign. The personnel productivity index was steady at 1.52.

Sales per outside sales rep fell to \$702,100 during 1986, but gross profits generated per salesman rose 1.8% to \$164,800. Average pay and travel expenses inched up 2% to \$39,400 and these reps' pay took a slightly larger bite out of gross profits at 23.7%. This is still good in relation to the 24% + levels of 1982-83. Sales per sales service person fell 16% to \$1.89 million in 1986, and gross profits per person dropped 12% to \$417,200. As noted above, however, these ratios must

EXHIBIT 3C

DUAL PAPER MERCHANTS

(All Data Are Medians)

	1983	1984	1985	1986	Your Firm
OVERALL PRODUCTIVITY MEASURES					
Net Sales Per Employee (\$000)	\$289.2	\$300.9	\$353.6	\$310.8	
Gross Profit Per Employee (\$000)	50.8	57.5	59.6	57.3	
Total Compensation As % Gross Profit	60.3	58.7	58.9	59.7	
Personnel Productivity Index (all empl.) ¹	1.66	1.70	1.70	1.68	
SALES COMPENSATION MEASURES					
Overall Sales Department					
Sales Per Sales Dept. Employee (\$000)	\$602.3	\$650.7	\$736.7	\$718.7	
Gross Profit Per Sales Dept. Employee (\$000)	108.8	120.8	129.3	126.2	
Sales Service & Selling Exp. As % Gross Profit	36.2	37.4	36.8	36.5	
Outside Sales Reps					
*Sales Per Outside Sales Rep (\$000)	\$968.6	\$1,039.6	\$1,153.9	\$1,128.3	
*Gross Profit Per Outside Sales Rep (\$000)	164.0	165.2	203.7	194.3	
*Avg. Pay & Travel Exp. (\$000)	40.9	44.1	47.1	48.3	
*Avg. Pay & Travel Exp. As % G.P. (%)	24.8	25.3	25.1	26.0	
Sales Service Personnel					
Sales Per Sales Service Emp. (\$000)	\$1,820	\$2,021	\$2,159	\$2,051	
Gross Profit Per Sales Service Emp. (\$000)	301.5	379.8	378.3	398.3	
Avg. Pay of Sales Service Emp. (\$000)	16.2	19.4	18.9	20.8	

¹The Personnel Productivity Index is defined as: gross profit per employee divided by average compensation per employee. This is a measure that compares the gross profit generated by your employees to the total compensation they earn during the period. Other things being equal, you should prefer a higher PPI value.

*Includes supervisors

be viewed with caution. Average salary levels for sales service people dipped slightly to \$16,200.

DUAL PAPER MERCHANTS

Dual paper merchant sales department performance is displayed in Exhibit 3C. Net sales per employee fell about 12% to \$310,800 during 1986 and is now more in line with pre-1985 levels. Gross profits per employee also fell, by roughly 4%, to \$57,300.

Sales and gross profits per sales department employee also fell, to \$718,700 and \$126,200, respectively. However, sales service and selling expenses took a slightly smaller

chunk of gross profits at 36.5% in 1986.

For outside sales reps, their pay and travel combined expenses accounted for the highest share of gross profits of all three merchant groups, 26% in 1986. The typical outside sales reps' pay and travel expenses amounted to \$48,300, second highest only to printing paper houses. The sales these reps generated slipped 2% to \$1.13 million, and gross profits fell roughly 5% to \$194,300.

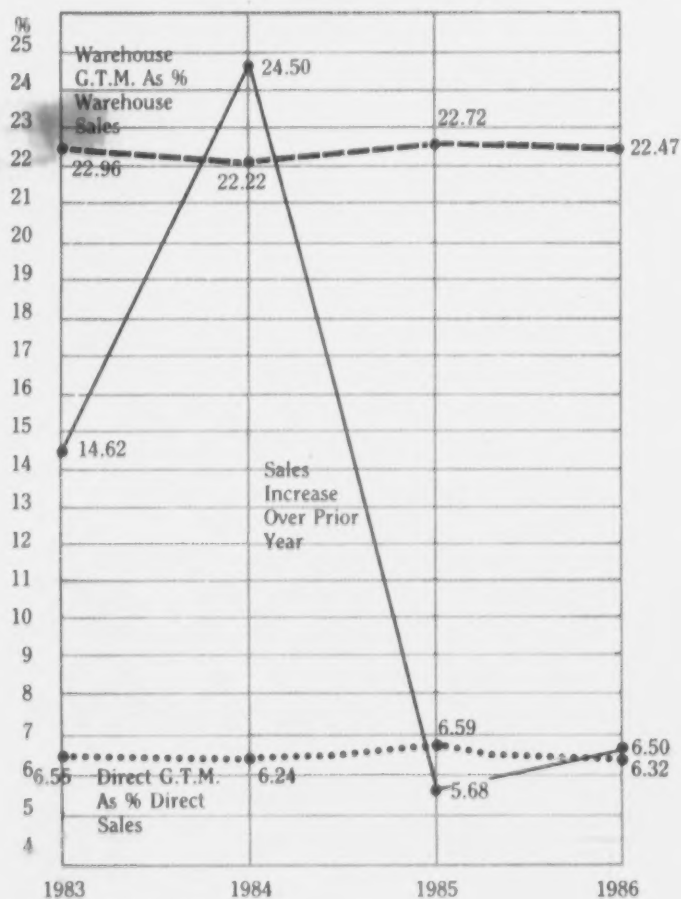
The average sales service employee's salary rose 10% to \$20,800 in 1986. Sales per sales service employee stood at \$2.05 million (down 5% from 1985), and gross profits rose 5% to \$398,300.

CHAPTER TWO: PRINTING PAPER MERCHANT PERFORMANCE

Printing paper merchants are defined as paper distributors who obtain 80% or more of their sales from the sale of printing paper products. This includes such items as: fine paper, envelopes, cut and cover stocks, and printing supplies (toner, inks, blankets, plates, etc.) as well as punching and cutting as an additional "value added" service to customers. (See Appendix A for characteristics of these merchants).

Chart 1

Printing Paper Merchant Performance



Source: National Paper Trade Association, Inc. 1986

SALES PERFORMANCE

For the second year in a row printing paper merchants posted the second best sales gain of all three groups (see Exhibit 4). Revenues rose 6.5% over 1985 levels. The share of total sales accounted for by *direct* shipments (from paper mills directly to merchant customers) remained low by historical standards, but rose slightly to 49.6% of total sales. Warehouse sales fell slightly, to 45.2% of the total. Printing paper houses traditionally sell more than twice as heavily via direct shipments than industrial merchants.

Average warehouse order sizes fell 14.4% to \$352, were down 6.8% to \$773 for indirect sales, and fell about 3% to \$6,543 for direct shipments.

PROFITABILITY PERFORMANCE

Exhibit 5 provides an eleven year trend analysis of several key profitability measures for printing paper merchants, dating back to 1975 (see Appendix C for detailed explanations). This model examines returns on sales, assets and net

EXHIBIT 4**SALES PERFORMANCE MEASURES FOR PRINTING PAPER MERCHANTS**

(All Values Are Composite Averages)¹

PERFORMANCE MEASURES	1978	1979	1980	1981	1982	1983	1984	1985	1986	Your Firm
% SALES CHANGE OVER PRIOR YEAR (%)	17.6	22.1	7.5	7.9	4.9	14.6	24.5	5.6	6.5	
WAREHOUSE SALES ² — % TOTAL SALES (%)	39.5	36.5	44.1	43.9	43.0	45.7	43.5	45.6	45.2	
INDIRECT SALES ² — % TOTAL SALES (%)	6.2	4.2	4.6	5.6	5.1	4.5	4.6	4.8	5.2	
WHSE & IND SALES ² — % TOTAL SALES (%)	42.4	41.8	47.2	48.8	48.4	48.8	46.1	51.0	50.4	
DIRECT SALES ² — % TOTAL SALES (%)	57.6	58.2	52.8	51.2	51.6	51.2	53.9	49.0	49.6	
AVERAGE WAREHOUSE ORDER SIZE (\$)	236	299	297	322	332	370	399	411	352	
AVERAGE INDIRECT ORDER SIZE (\$)	718	886	920	800	940	877	905	829	773	
AVERAGE WHSE & IND ORDER SIZE (\$)	263	318	314	317	354	384	421	440	368	
AVERAGE DIRECT ORDER SIZE (\$)	4,026	4,696	4,485	4,864	4,187	6,050	6,858	6,737	6,543	

Sources: Management Foresight, Inc./NPTA

¹See Appendix B for a discussion of composite averages.

²As discussed in Appendix E, the addition of an "indirect sales" category reduced the comparability of the 1976 and later, sales values to the 1977, and earlier results. However, the 1978 and later results are mutually comparable.

EXHIBIT 5
PRINTING PAPER MERCHANTS' PROFIT MODEL PERFORMANCE¹
(Composite Average Values)²

	(1) NET PROFIT BEFORE TAX NET SALES (%)	×	(2) NET SALES TOTAL ASSETS (X)	=	(3) NET PROFIT BEFORE TAX TOTAL ASSETS (%)	×	(4) TOTAL ASSETS NET WORTH (X)	=	(5) NET PROFIT BEFORE TAX NET WORTH (%)	(6) RETURN ON CAPITAL EMPLOYED ³ (%)
1986	2.18		4.06		8.59		2.01		17.41	14.77
1985	2.54		4.12		10.39		1.91		20.04	17.92
1984	2.63		4.63		12.20		2.04		25.29	21.28
1983	2.30		4.09		9.40		1.96		18.79	17.27
1982	2.10		4.58		9.67		1.82		18.04	17.97
1981	3.11		4.54		14.20		1.72		24.30	22.78
1980	3.25		4.58		14.89		1.94		29.02	24.78
1979	3.16		4.65		14.53		2.26		33.51	25.72
1978	2.35		4.40		10.50		2.29		24.29	19.69
1977	2.65		4.11		11.30		1.79		21.12	22.19
1976	3.43		3.79		13.00		1.61		20.94	19.50
1975	3.72		3.31		12.31		1.65		20.32	20.90

¹See Appendix C for a discussion of the MFI Profit Model.

²The measures shown under columns 1-5 are computed individually. Therefore, the values in column 3 are the result of dividing Net Profit Before Tax by Total Assets and are not the result of multiplying column 1's values by column 2's values; the values in column 5 are the result of dividing Net Profit Before Tax by Net Worth and are not the result of multiplying column 3's values by column 4's values.

³Return on Capital Employed was defined in 1977 and prior years as "net profit before taxes plus interest on borrowed funds minus income from outside investments" divided by "net worth, or owner's equity, plus long term debt minus outside investments". In 1978 and later years, Bank Loans Due in Less Than One Year was added to the denominator of the ratio (the capital invested) to recognize that some, if not most, of the total interest paid by the typical paper distributor resulted from bank loans. See Appendix D for a complete definition of the measure.

worth, as well as the management of assets as resources used to produce sales.

1986 was not a good year for printing paper distributor profitability. As discussed in Chapter 1, part of the decline may be due to the impact of low inflation rates, but the magnitude of the decline is substantial enough to lead one to believe that profitability did in fact suffer. Return on sales fell from 2.54% to 2.18% (second lowest in 13 years), ROTAT (Return on Total Assets) dropped from 10.39% to 8.59%, Return on Net Worth fell from 20.04% to 17.41% (13-year low), and Return on Capital Employed also hit a 13-year low, falling from 17.92% to 14.77%.

PROFIT MARGIN MANAGEMENT

Ten key measures of profit margin management in three main areas: sales profitability, operating expense control, and personnel productivity are presented in Exhibit 6A.

Prior to 1978, merchant sales were studied in terms of two sales paths (i.e. warehouse sales and direct sales). Beginning with the report for 1978, merchants separated indirect sales from warehouse sales so that sales are now studied in terms of four paths — warehouse and direct sales as before and also for indirect and warehouse & indirect sales.

Warehouse gross margins (as percent warehouse sales)

fell slightly to 22.5%. This tied a 10-year low. This figure is lower than in industrial paper houses but is higher than dual merchants. Indirect margins improved to 17.6% of indirect sales, and direct margins slid to 6.3% of direct shipments — again tying a 10-year low figure. By comparison, industrial merchants' direct margins were more than double at 13.7% and dual merchants' measure stood at 9.4%.

Non-people expenses continued to climb and hit a seven-year high of 30.2% of gross margin dollars in 1986. Total employee compensation also rose substantially to 56% of gross margins. These factors contributed to total operating expenses accounting for 85.4% of gross margins, the second highest rate in ten years.

After being reduced in 1985, combined sales service and selling expenses shot up again to 37.4% of gross margins. Net sales per employee rose 5.4% to \$486,400, while gross margins per employee advanced 3.2% to \$69,100. Exhibit 6B shows the "upper quartile" or top performance by the most profitable companies. Their warehouse gross margins came in at 25.2% of warehouse sales, versus 22.5% for all printing paper firms. Top performers also had direct gross margins of nearly 8%, versus 6.3% overall. Their operating costs were nearly five percentage points lower at 80.6% of gross margins, non-people expenses were 25.9% (vs. 30.2%) of gross

margins, and gross margins generated per employee were nearly \$8,500 higher at \$77,580.

Generally speaking, small-medium sized firms posted the best warehouse and direct gross margins, with the smallest companies (under \$10 million in sales) having the highest sales increase of 11%. Small firms also had the best return on capital and net worth, but the bigger merchants posted the best ROTA and return on sales (see Table 2B in back section of book).

ASSET MANAGEMENT PERFORMANCE

In Exhibit 7A four key asset management measures are tracked, with the most important one being the Total Assets Turnover (net sales divided by total assets). A higher number indicates that the company is generating greater sales from its investment. This is crucial because assets must be financed either with debt or with owner's funds. Thus, with greater profits earned on a smaller investment the percentage return on the owner's investment will rise.

EXHIBIT 6A

PROFIT MARGIN PERFORMANCE MEASURES FOR PRINTING PAPER MERCHANTS

(All Values Are Composite Averages)

PROFITABILITY ¹	1978	1979	1980	1981	1982	1983	1984	1985	1986	Your Firm
WAREHOUSE GROSS MARGIN										
— % WHSE SALES (%)	24.8	24.7	24.5	24.5	23.3	23.0	22.5	22.7	22.5	
INDIRECT GROSS MARGIN										
— % INDIRECT SALES (%)	16.5	17.7	17.7	17.5	17.0	17.6	17.5	17.3	17.6	
WHSE & IND GROSS MARGIN										
— % WHSE & IND SALES (%)	23.7	24.2	24.2	24.1	22.9	22.7	22.1	22.3	22.2	
DIRECT GROSS MARGIN										
— % DIRECT SALES (%)	7.4	7.6	7.5	7.2	7.1	6.6	6.3	6.6	6.3	
OPERATING EXPENSE CONTROL										
OPERATING EXPENSE										
— % OF GROSS MARGIN (%)	83.8	78.2	78.9	80.4	86.6	85.3	81.8	83.5	85.4	
NON-PEOPLE EXPENSE										
— % OF GROSS MARGIN (%)	—	—	25.8	26.3	29.2	28.6	28.5	29.0	30.2	
TOTAL EMPLOYEE COMPENSATION										
— % OF GROSS MARGIN (%)	56.3	52.7	53.2	53.8	57.3	57.1	53.5	54.7	56.0	
PERSONNEL PRODUCTIVITY										
NET SALES PER EMPLOYEE (\$000)	281.1	342.1	329.4	351.0	358.8	387.8	474.6	461.2	486.4	
GROSS MARGIN PER EMPLOYEE (\$000)	41.0	50.2	51.3	54.2	52.9	56.0	64.4	66.9	69.1	
SALES SVC & SELL EXPENSE										
— % GROSS MARGIN (%)	38.2	36.5	35.7	36.3	38.5	37.5	36.4	35.9	37.4	

¹This survey studied only warehouse and direct sales until indirect sales were separated and excluded from warehouse sales starting with data for 1978. Thus, the published values for 1977 and earlier years are not directly comparable with values for 1978 and later years. However, values for 1978 and later years are mutually comparable.

EXHIBIT 6B

**SOME PROFIT MARGIN PERFORMANCE GOALS
FOR PRINTING PAPER MERCHANT FIRMS**

(Based on 1986 Business Conditions & Performances)

	UPPER QUARTILE ¹ OF ALL PRINTING PAPER FIRMS	MEDIAN ² OF HIGH PROFIT (ROTA) GROUP
PROFITABILITY		
WHSE PP GM — % WHSE PP SALES (%)	25.23	22.73
DIR PP GM — % DIR PP SALES (%)	7.98	6.98
OPERATING EXPENSE CONTROL		
OPERATING EXPENSES — % GROSS MARGIN (%)	80.56	86.43
NON-PEOPLE EXPENSES — % GROSS MARGIN (%)	25.88	31.04
TOTAL COMPENSATION — % GROSS MARGIN (%)	51.62	56.48
PERSONNEL PRODUCTIVITY		
GROSS MARGIN PER EMPLOYEE (\$)	77,580	67,260

¹After individual company values have been calculated and ordered by size, the value standing in the middle of the upper half of values is the upper quartile. The upper quartile is the average of the values in the 25th & 26th position in a set of 100 all firms' values.

²After individual company values have been calculated and ordered by size, the value standing in the middle of the top quarter of values is the median of the high profit group. The median of the high profit group is the average of the values in the 12th & 13th positions in a set of 100 ROTA profit group firms' values (See Appendix B for ROTA Profit Groups).

During 1986 the total assets turnover slipped again, to its lowest level in ten years, 4.06 times. Inventory was turned over a little more rapidly at 4.43 times per year; but this is still low by historical standards. Gross margin return on inventory remains at a historically low level of 129%. Good inventory management is critical, since these assets typically represent over 30% of the total for printing paper houses (see Table 6). The average collection period for receivables was cut to 43.7 days, in line with levels of the past five years or so. Receivables management is also critical, since they represented over 53% of the printing paper distributors' balance sheet or assets during 1986.

Exhibit 7B provides a view of the top-performing merchants. This group's total assets turnover was 4.95 times (vs. 4.06 overall); it turned over its inventory more than one turn faster at 5.75 times annually, and it collected its receivables in 37 days.

By company size, again the smallest firms had the most rapid inventory turnover (5.94 times yearly), better-than-average total assets turnover (4.15 times), the best gross margin return on inventory (160%), and the least amount tied up in receivables (36 days of sales). NPTA Region 2 firms (mid-Atlantic area) had the best overall asset management performance (see Table 2C).

FINANCIAL MANAGEMENT

Four measures of financial management for printing paper merchants are covered via Exhibit 8. Total Debt to Net Worth shot up to 87.5% in 1986, reversing a two year dip in debt reliance. Current Debt to Net Worth also rose, though not as sharply, to 63.4%. Total current liabilities rose from 37.5% of liabilities to 40.4% in 1986, and capital and surplus (equity) fell from 50.9% to 48.1% (refer to Table 6 for composite balance sheet).

EXHIBIT 7A

ASSET MANAGEMENT PERFORMANCE MEASURES FOR PRINTING PAPER MERCHANTS

(All Values Are Composite Averages, Unless Otherwise Noted)

OVERALL ASSET MANAGEMENT	1978	1979	1980	1981	1982	1983	1984	1985	1986	Your Firm
NET SLS TO TOTAL ASSETS (X)	4.40	4.65	4.56	4.55	4.58	4.09	4.63	4.12	4.06	
INVENTORY MANAGEMENT										
INVENTORY TURNOVER (X) ¹	4.98	6.01	5.13	4.85	4.95	4.80	4.93	4.33	4.43	
GROSS MARGIN RETURN ON INVENTORY (%) ²	164	197	166	158	151	143	141	127	129	
ACCOUNTS RECEIVABLE MANAGEMENT										
AVG. COLLECTION PERIOD (DAYS) ³ (Weighted Mean)	48.0	46.0	42.5	43.1	44.2	43.5	42.9	44.2	43.7	

¹Inventory Turnover is calculated as Cost of Warehouse Goods Sold to Average Inventory (average of beginning and ending inventories for the year). However, remember that the definition of warehouse sales was narrowed to exclude indirect sales for 1978 and later years.

²Gross Margin Return On Inventory is defined as Gross Margin On Warehouse Sales divided by Average Inventory. Starting with the 1978 data, indirect sales were separated and excluded from warehouse sales. Thus, the above values for 1977 and earlier years are not directly comparable with the values for 1978 and later years. However, the values for 1978 and later years are mutually comparable.

³The calculation approach used for each measure is defined in Appendix D.

EXHIBIT 7B

SOME ASSET MANAGEMENT PERFORMANCE GOALS FOR PRINTING PAPER MERCHANT FIRMS

(Based on 1986 Business Conditions & Performances)

OVERALL ASSET MANAGEMENT	UPPER QUARTILE ¹ OF ALL PRINTING PAPER FIRMS	MEDIAN ² OF HIGH PROFIT (ROTA) GROUP
NET SALES TO TOTAL ASSETS (X)	4.95	4.03
INVENTORY MANAGEMENT		
INVENTORY TURNOVER (X)	5.75	4.76
GROSS MARGIN RETURN ON INVENTORY (%)	170.7	126.0
ACCOUNTS RECEIVABLE MANAGEMENT		
DAYS SALES IN ACCOUNTS RECEIVABLE ON NOV. 30 (DAYS) ³	37.0	41.5

¹The upper quartile is the value standing in the middle of the top half of the ordered values. In a set of about 100 values, the upper quartile is about 25th from the top.

²The median of the high profit group (See Appendix B for the ROTA Profit Groups) is the value standing in the middle of the top quarter of the ordered values. In a set of about 100 values, the median of the high profit group is about 12th from the top.

³This is a more precisely defined measure of collection period than Average Collection Period which is based on sales for the year. Days Sales... is calculated by dividing credit sales for Oct. + Nov. by 61 to get a more accurate measure of average credit sales per day and then dividing this value into the trade notes and accounts receivable (after reserve for bad debts) on Nov. 30.

EXHIBIT 8**FINANCIAL MANAGEMENT MEASURES
FOR PRINTING PAPER MERCHANTS***(All Values Are Medians)*

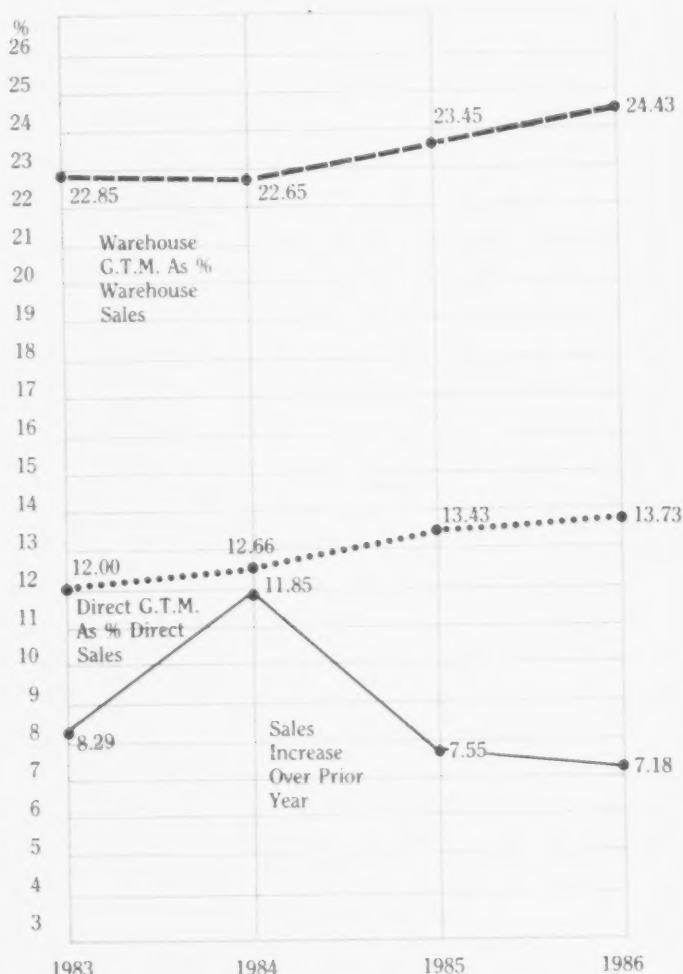
FINANCIAL LEVERAGE	1980	1981	1982	1983	1984	1985	1986
TOTAL DEBT TO NET WORTH (%)	131.4	99.8	84.42	93.67	73.68	70.96	87.51
CURRENT DEBT TO NET WORTH (%)	104.5	80.6	72.26	84.06	69.48	61.28	63.44
ABILITY TO PAY CURRENT DEBTS							
CURRENT ASSETS MINUS INVENTORY TO CURRENT DEBT (X)	1.51	1.52	1.70	1.38	1.51	1.68	1.40
DAYS PAYABLES OUTSTANDING ON DEC. 31 (DAYS)	21.4	19.4	19.8	21.7	20.6	20.7	21.4

CHAPTER THREE: INDUSTRIAL PAPER MERCHANT PERFORMANCE

Industrial paper merchants are paper distributors who obtain 80% or more of their sales dollars from the sale of industrial paper products (such as: sanitary papers, food service disposables, packaging equipment, protective packaging, shipping boxes, tapes, janitorial supplies, retail matched packaging, health care disposables). See Appendix A for the characteristics of merchants studied in the report.

Chart 2

Industrial Paper Merchant Performance



Source: National Paper Trade Association, inc. 1987

EXHIBIT 9**SALES PERFORMANCE MEASURES FOR INDUSTRIAL PAPER MERCHANTS***(All Values Are Composite Averages)¹*

PERFORMANCE MEASURES	1978	1979	1980	1981	1982	1983	1984	1985	1986	Your Firm
% SALES CHANGE OVER PRIOR YEAR (%)	13.4	16.9	11.8	11.3	3.5	8.3	12.0	7.6	7.2	
WAREHOUSE SALES ² — % TOTAL SALES (%)	68.9	69.9	74.7	71.8	66.3	69.7	66.2	71.5	73.1	
INDIRECT SALES ² — % TOTAL SALES (%)	10.6	7.0	5.4	7.6	6.2	5.9	5.7	4.5	3.8	
WHSE & IND. SALES ² — % TOTAL SALES (%)	81.7	77.4	79.4	78.0	75.5	76.1	71.9	77.3	77.5	
DIRECT SALES ² — % TOTAL SALES (%)	18.3	22.6	20.8	22.0	24.5	23.9	28.4	22.7	22.5	
AVERAGE WAREHOUSE ORDER SIZE (\$)	163	163	180	196	250	243	282	234	244	
AVERAGE INDIRECT ORDER SIZE (\$)	240	278	296	256	309	372	371	426	324	
AVERAGE WHSE & IND ORDER SIZE (\$)	151	167	190	206	248	237	266	269	251	
AVERAGE DIRECT ORDER SIZE (\$)	775	1,105	1,060	1,260	1,476	1,500	1,747	1,575	1,088	

*Sources: Management Foresight, Inc./NPTA*¹See Appendix B for a discussion of composite averages.²As discussed in Appendix E, the addition of an "indirect sales" category reduced the comparability of the 1978, and later, sales values to the 1977, and earlier, results. However, the 1978 and later results are mutually comparable.**SALES PERFORMANCE**

Industrial merchants' sales rose 7.2% during 1986, the best of all three merchant groups. Exhibit 9 presents sales and order size information from 1978-86. With the exception of the recession year 1982, this is the smallest sales gain in nine years for industrial houses. "Real" growth, adjusted for inflation, was 6.8% (vs. 8.9% in 1985). Producer prices for industrial-grade paper rose only 0.4% in 1986, according to the Bureau of Labor Statistics. The smallest firms (under \$3 million in sales), however, posted an 11.5% sales increase (see Table 3B).

Emphasis on warehouse sales was the highest since 1980, 73% of total sales. Indirect shipments continued to account

for a lower share, dropping to a new low of 3.8% of total sales in 1986. Direct sales relative to total revenues stayed about the same at 22.5% of all sales.

The average warehouse order size rose 4% to \$244, while the typical indirect order dropped 24% to \$324. The average direct order was worth \$1,088 during 1986, down a substantial 31% from the prior year.

PROFITABILITY PERFORMANCE

Exhibit 10 presents the profit model for industrial paper merchants from 1975-86 (see Appendix C for a detailed explanation). It analyzes sales management, the management

of assets as resources used to generate sales, financial leverage, and return on assets and net worth.

In sharp contrast to the performance by printing paper firms, for the second consecutive year, profitability measures held up well, improved, or did not worsen as much as for other merchant groups in 1986. Return on Net Sales (net profit before tax divided by net sales) improved from 2.06% to 2.08%. The critical indicator ROIA (Return on Total Assets — net profit before tax divided by total assets) rose from 8.15% to 8.18%. Return on Net Worth (net profit before tax divided by net worth) fell slightly from 15.62% to 15.21%, and Return on Capital Employed dropped from 14.60% to 13.44% during 1986. But, the decline was not as bad as for printing paper and dual merchant groups, and these figures are not

that bad in relation to early 1980s levels.

The smallest industrial merchants (under \$3 million sales) had the best return on sales (3.36%), best ROIA (11.55%), and best return on net worth (20.87%). The larger firms did register better than average total assets turnover (net sales divided by total assets) and firms in the \$12-25 million class had the best return on capital employed (16.02%) and return on net worth (16.99%). Refer to Table 3B at the back of the book for details.

PROFIT MARGIN MANAGEMENT

Industrial paper gross trading margins, operating expenses, and personnel productivity measures are presented in Exhibit 11A. Prior to 1978, merchant sales were studied in

EXHIBIT 10

INDUSTRIAL PAPER MERCHANTS' PROFIT MODEL PERFORMANCE¹

(Composite Average Values)²

	(1)	×	(2)	=	(3)	×	(4)	=	(5)	(6)
	NET PROFIT BEFORE TAX		NET SALES		NET PROFIT BEFORE TAX		TOTAL ASSETS		NET PROFIT BEFORE TAX	RETURN ON CAPITAL
	NET SALES		TOTAL ASSETS		TOTAL ASSETS		NET WORTH		NET WORTH	EMPLOYED ³
	(%)		(X)		(%)		(X)		(%)	(%)
1986	2.08		3.96		8.18		1.83		15.21	13.44
1985	2.06		3.94		8.15		1.92		15.62	14.60
1984	1.96		4.18		8.20		1.80		15.02	13.32
1983	2.19		3.95		8.64		1.89		16.57	13.97
1982	1.64		4.20		6.86		1.92		13.48	12.59
1981	2.63		4.16		10.94		1.99		22.15	19.24
1980	2.55		3.48		10.17		2.12		21.64	18.11
1979	2.31		3.93		9.07		2.03		18.69	15.95
1978	2.15		4.02		8.66		1.99		17.23	14.61
1977	2.53		3.83		9.49		2.00		18.97	18.69
1976	3.31		3.69		12.22		2.09		25.55	20.10
1975	3.65		3.71		13.56		2.11		28.57	23.60

¹See Appendix C for a discussion of the MFI Profit Model.

²The measures shown under columns 1-5 are computed individually. Therefore, the values in column 3 are the result of dividing Net Profit Before Tax by Total Assets and are not the result of multiplying column 1's values by column 2's values; the values in column 5 are the result of dividing Net Profit Before Tax by Net Worth and are not the result of multiplying column 3's values by column 4's values.

³Return on Capital Employed was defined in 1977 and prior years as "net profit before taxes plus interest on borrowed funds minus income from outside investments" divided by "net worth, or owner's equity, plus long term debt minus outside investments." In 1978 and later years, Bank Loans Due in Less Than One Year was added to the denominator of the ratio (the capital invested) to recognize that some, if not most, of the total interest paid by the typical paper distributor resulted from bank loans. See Appendix D for a complete definition of the measure.

EXHIBIT 11A
PROFIT MARGIN PERFORMANCE MEASURES FOR INDUSTRIAL PAPER MERCHANTS
(All Values Are Composite Averages)

PROFITABILITY¹	1978	1979	1980	1981	1982	1983	1984	1985	1986	Your Firm
WAREHOUSE GROSS MARGIN										
— % WHSE SALES (%)	24.3	25.2	25.0	25.5	23.1	22.9	22.7	23.7	24.4	
INDIRECT GROSS MARGIN										
— % INDIRECT SALES (%)	22.9	25.1	25.7	26.4	24.3	22.7	23.2	22.8	23.3	
WHSE & IND GROSS MARGIN										
— % WHSE & IND SALES (%)	23.6	24.4	25.4	24.8	23.0	22.7	23.1	22.7	23.9	
DIRECT GROSS MARGIN										
— % DIRECT SALES (%)	14.2	15.3	14.1	14.8	11.6	12.0	12.7	13.5	13.7	
OPERATING EXPENSE CONTROL¹										
OPERATING EXPENSE										
— % OF GROSS MARGIN (%)	90.7	89.0	89.3	89.7	95.1	92.9	94.3	93.4	93.7	
NON-PEOPLE EXPENSE										
— % OF GROSS MARGIN (%)	—	—	27.5	26.1	27.8	27.5	26.8	26.5	27.4	
TOTAL EMPLOYEE COMPENSATION										
— % GROSS MARGIN (%)	64.3	63.3	61.4	63.6	65.4	64.0	64.0	65.7	65.1	
PERSONNEL PRODUCTIVITY										
NET SALES PER EMPLOYEE (\$000)	139.9	150.8	159.0	180.0	204.6	217.6	239.5	225.1	229.8	
GROSS MARGIN PER EMPLOYEE (\$000)	30.3	33.7	36.6	40.6	41.6	44.5	48.4	46.8	49.6	
SALES SVC & SELL EXPENSE — % GROSS MARGIN (%)	36.9	36.2	36.1	35.5	38.6	38.3	38.9	37.4	37.9	

¹This survey studied only warehouse and direct sales until indirect sales were separated and excluded from warehouse sales starting with data for 1978. Thus, the published values for 1977 and earlier years are not directly comparable with the values for 1978 and later years. However, values for 1978 and later years are mutually comparable.

terms of two sales paths (i.e. warehouse sales and direct sales). Beginning with the 1978 report, merchants separated indirect sales from warehouse sales so that sales are now studied in terms of four paths — warehouse and direct sales as before and also for indirect and warehouse & indirect sales.

Warehouse gross margins for industrial paper merchants hit their highest point since 1981 rising to 24.4% of warehouse sales in 1986. This figure is substantially higher than printing or dual merchant firms. Indirect margins also improved, one-half percentage point, to 23.3% on indirect sales. Direct gross margins hit a six-year peak of 13.7%, highest of all three merchant groups as well. Industrial houses in the \$6-12 million class posted very high 28.8% warehouse gross margins, and small firms under \$3 million in sales had better-than-average 25.6% margins.

Operating expenses still run significantly higher than in

printing paper or dual companies, and costs rose to 93.7% of gross margin dollars during 1986. Total employee compensation was cut slightly to 65.1% of gross margins, but non-people expenses rose to 27.4%. Smaller industrial merchants seemed to have better control over operating costs, with an 88.6% of gross margin figure. This is in contrast to the 95% encountered by firms with a sales volume over \$25 million (see Table 3B).

As for personnel productivity, net sales per employee rose 2% to \$229,800 in 1986, rising in value in direct proportion to company size (from \$138,530 for smallest companies to \$259,200 for the largest). Gross margins per employee were up 5% to \$49,600, also rising with company size (range \$36,610-\$51,010). Combined sales service and selling expenses rose slightly to 37.9% of gross margins.

Exhibit 11B presents the high-performance goals to shoot for by industrial merchants. Upper quartile figures as one

can see, are much higher than the average. These upper quartile firms had warehouse gross margins of 27.3% and direct gross margins equal to 20% of direct sales. Operating expenses were much lower at 88% of margin dollars, employee compensation ran 8.5 percentage points lower than the average at 56.6% of gross margin, and gross margin per employee was over \$17,000 higher than the norm.

ASSET MANAGEMENT PERFORMANCE

Four key asset management performance measures are presented via Exhibit 12A. The most critical of these indicators, Total Asset Turnover (net sales to total assets) improved slightly to 3.96 times, and is rising back to historical levels. Inventory turnover stood at 6.24 times annually, slowing up slightly from 1985. The combination of an improved asset turnover figure and a slightly slower inventory turn resulted in a gross margin return on inventory about the same as in 1985, or 196%. The best gross margin return on inventory

was recorded by mid-sized industrial firms in the \$6-12 million class, with a figure of 242.5%.

Exhibit 12B displays the upper quartile, top-performance results for these asset management indicators. The Total Asset Turnover stood at 4.72 times (versus 3.96 average), the inventory turnover was much more rapid at 7.52 times yearly (versus 6.24 times per year average), return on inventory was 257.6% (versus 196%), and receivables were collected roughly six days faster at 31.7 days.

FINANCIAL MANAGEMENT

Financial management statistics are tracked via Exhibit 13. In contrast to the printing paper merchant, industrial paper distributors cut their total and current debt obligations substantially during 1986.

Total Debt to Net Worth was slashed from 102.5% to 69.5%, and Current Debt to Net Worth was trimmed from 81.8% to 55.6%, a healthy sign indeed. Consequently, the "Quick

EXHIBIT 11B

SOME PROFIT MARGIN PERFORMANCE GOALS FOR INDUSTRIAL PAPER MERCHANT FIRMS

(Based on 1986 Business Conditions & Performances)

PROFITABILITY	UPPER QUARTILE ¹ OF ALL INDUSTRIAL PAPER FIRMS	MEDIAN ² OF HIGH PROFIT ³ (ROTA) GROUP
WHSE IP GM — % WHSE IP SALES (%)	27.32	23.79
DIR IP GM — % DIR IP SALES (%)	19.97	14.39
OPERATING EXPENSE CONTROL		
OPERATING EXPENSE — % GROSS MARGIN (%)	88.02	93.61
NON-PEOPLE EXPENSE — % GROSS MARGIN (%)	23.14	27.78
TOTAL COMPENSATION — % GROSS MARGIN (%)	56.63	66.81
PERSONNEL PRODUCTIVITY		
GROSS MARGIN PER EMPLOYEE (\$)	66,850	59,170

¹After individual company values have been calculated and ordered by size, the value standing in the middle of the upper half of values is the upper quartile. The upper quartile is the average of the values in the 25th + 26th positions in a set of 100 all firms' values.

²After individual company values have been calculated and ordered by size, the value standing in the middle of the top quarter of values is the median of the high profit group. The median of the high profit group is the average of the values in the 12th + 13th positions in a set of 100 ROTA profit group firms' values (See Appendix B for ROTA Profit Groups).

EXHIBIT 12A

ASSET MANAGEMENT PERFORMANCE MEASURES FOR INDUSTRIAL PAPER MERCHANTS

(All Values Are Composite Averages, Unless Otherwise Noted)

**OVERALL ASSET
MANAGEMENT**

	1978	1979	1980	1981	1982	1983	1984	1985	1986
NET SLS TO TOTAL ASSETS (X) ¹	4.02	3.93	4.00	4.16	4.20	3.95	4.18	3.94	3.96

INVENTORY MANAGEMENT

INVENTORY TURNOVER (X) ¹	7.57	6.44	6.61	7.07	6.07	6.26	6.32	6.48	6.24
GROSS MARGIN RETURN ON INVENTORY (%) ²	243	217	221	242	182	184	185	198	196

**ACCOUNTS RECEIVABLE
MANAGEMENT**

AVG. COLLECTION PERIOD (DAYS) ³ (Weighted Mean)	40.1	40.5	39.4	38.2	38.6	36.7	39.5	38.9	37.1
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¹Inventory Turnover is calculated as Cost of Warehouse Goods Sold to Average Inventory (average of beginning and ending inventories for the year). However, remember that the definition of warehouse sales was narrowed to exclude indirect sales for 1978 and later years.

²Gross Margin Return On Inventory is defined as Gross Margin On Warehouse Sales divided by Average Inventory. Starting with the 1978 data, indirect sales were separated and excluded from warehouse sales. Thus, the above values for 1977 and earlier years are not directly comparable with the values for 1978 and later years. However, the values for 1978 and later years are mutually comparable.

³The calculation approach used for each measure is defined in Appendix D.

Ratio" or current assets less inventory, divided by current debt, improved to 1.39 times. And, industrial merchants managed to take a little more time to pay their bills (in essence, payables represent short term loans financed by their customers). Days payable outstanding rose from 23.2 days to 24.6 days.

PERFORMANCE BY CUSTOMER/MARKET GROUP

In response to industry demand, a new section was added to the PAR report this year which differentiated performance according to the specialized markets industrial merchants sell to. Since the industrial paper market is less homogeneous than printing paper, in terms of products and customers, it was felt that retail packaging-oriented merchants should be analyzed as a separate group than those concentrating on food service disposables, for example.

Exhibit 14 presents overall company and sales department measures according to those "customer emphasis" groups. Overall, the *Food Service* market appears to be the most "efficient", since median net sales per employee were higher than other market groups (\$225,200), compensation took less of a bite out of gross profits, and the personnel productivity index was highest.

Sales generated per food service sales department employee were highest at \$587,000, and combined sales service and selling expenses were substantially lower than other market groups at 29.5% of gross profits. Also, the average pay of an outside sales rep for a firm specializing in food service was lowest at \$34,100, accounting for only 18% of gross profit dollars. Table 3D in the back section of the book is new this year as well, and provides a look at profitability, sales, inventory and receivables management indicators by customer groups.

Industrial houses selling primarily to the *Industrial Manufacturing* sector had the best profitability and return on investment figures, the highest gross trading margins, least amount tied up in receivables, and best ratio of operating expenses to gross margins. *Full-Line Distributors* (no particular specialty) posted the best sales gain of 7.6%. Refer to Table 3D for more details.

Table 8 is also new, and presents composite balance sheets for industrial and dual merchants. Food Service-oriented firms have less assets tied up in cash securities and receivables, but carry more inventory than industrial manufacturing specialists or full-line distributors. Also, they seem to have more long-term liabilities and less capital and surplus (equity).

EXHIBIT 12B

SOME ASSET MANAGEMENT PERFORMANCE GOALS FOR INDUSTRIAL PAPER MERCHANT FIRMS

(Based on 1986 Business Conditions & Performances)

OVERALL ASSET MANAGEMENT	UPPER QUARTILE¹ OF ALL INDUSTRIAL PAPER FIRMS	MEDIAN² OF HIGH PROFIT (ROTA) GROUP
NET SALES TO TOTAL ASSETS (X)	4.72	3.97
INVENTORY MANAGEMENT		
INVENTORY TURNOVER (+)	7.52	5.88
GROSS MARGIN RETURN ON INVENTORY (%)	257.6	213.6
ACCOUNTS RECEIVABLE MANAGEMENT		
DAYS SALES IN ACCOUNTS RECEIVABLE ON NOV. 30 (DAYS) ³	31.7	37.8

¹The upper quartile is the value standing in the middle of the top half of the ordered values. In a set of about 100 values, the upper quartile is about 25th from the top.

²The median of the high profit group (See Appendix B for the ROTA Profit Groups) is the value standing in the middle of the top quarter of the ordered values. In a set of about 100 values, the median of the high profit group is about 12th from the top.

³This is a more precisely defined measure of collection period than Exhibit 12A's Average Collection Period which is based on sales for the year. Days Sales... is calculated by dividing credit sales for Oct. & Nov. by 61 to get a more accurate measure of average credit sales per day and then dividing this value into the trade notes and accounts receivable (after reserve for bad debts) on Nov. 30.

EXHIBIT 13

FINANCIAL MANAGEMENT MEASURES FOR INDUSTRIAL PAPER MERCHANTS

(All Values Are Medians)

FINANCIAL LEVERAGE	1980	1981	1982	1983	1984	1985	1986
TOTAL DEBT TO NET WORTH (%)	111.2	88.5	88.2	90.6	102.5	102.5	69.5
CURRENT DEBT TO NET WORTH (%)	71.3	67.7	70.5	69.5	69.1	81.8	55.6
ABILITY TO PAY CURRENT DEBTS							
CURRENT ASSETS MINUS INVENTORY TO CURRENT DEBT (X)	1.32	1.38	1.34	1.43	1.46	1.31	1.39
DAYS PAYABLES OUTSTANDING ON DEC. 31 (DAYS)	23.3	22.3	21.3	21.7	21.2	23.2	24.6

EXHIBIT 14

**INDUSTRIAL PAPER MERCHANTS
BY CUSTOMER EMPHASIS GROUPS
1986**

(All Data Are Medians)

OVERALL PRODUCTIVITY MEASURES	SPECIALIZATION IN:			
	FOOD SERVICE	INDUSTRIAL MFG.	RETAIL/MATCHED PACKAGING	FULL LINE DISTRIBUTOR
Net Sales Per Employee (\$000)	\$225.2	\$202.0	\$116.9	\$205.9
Gross Profit Per Employee (\$000)	49.5	47.5	47.2	50.3
Total Compensation As % Gross Profit	55.0	70.1	—	66.0
Personnel Productivity Index (all empl.) ¹	1.82	1.43	—	1.52
SALES COMPENSATION MEASURES				
Overall Sales Department				
Sales Per Sales Dept. Employee (\$000)	\$587.1	\$544.7	\$358.2	\$462.7
Gross Profit Per Sales Dept. Employee (\$000)	113.9	115.1	122.6	108.1
Sales Service & Selling Exp. As % Gross Profit	29.5	37.8	34.7	38.5
Outside Sales Reps				
*Sales Per Outside Sales Rep (\$000)	\$680.1	\$817.5	\$444.8	\$610.7
*Gross Profit Per Outside Sales Rep (\$000)	147.3	187.0	155.9	150.7
*Avg. Pay & Travel Exp. (\$000)	34.1	43.0	—	39.4
*Avg. Pay & Travel Exp. As % G.P. (%)	18.0	25.6	—	25.0
Sales Service Personnel				
Sales Per Sales Service Emp. (\$000)	\$2,100.0	\$1,835.6	—	\$1,943.0
Gross Profit Per Sales Service Emp. (\$000)	500.4	318.2	—	480.7
Avg. Pay of Sales Service Emp. (\$000)	15.5	18.1	—	15.4

The personnel Productivity Index is defined as: gross profit per employee divided by average compensation per employee. This is a measure that compares the gross profit generated by your employees to the total compensation they earn during the period. Other things being equal, you should prefer a higher PPI value.

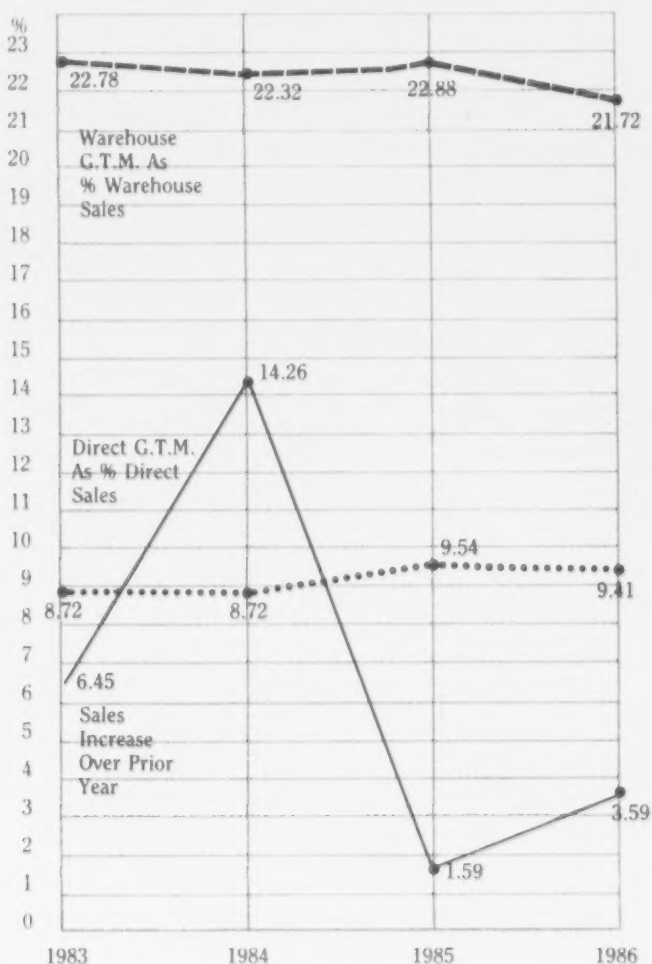
**Includes supervisors*

CHAPTER FOUR: DUAL PAPER MERCHANT PERFORMANCE

Dual paper merchants are distributors providing the full spectrum of paper products who obtain less than 80% of their total sales dollars from the sale of either printing or industrial papers. (See Appendix A for the characteristics of merchants studied in this report).

Chart 3

Dual Paper Merchant Performance



Source: National Paper Trade Association, Inc. 1987

SALES PERFORMANCE

Sales performance indicators for dual merchants are tracked from 1978-86 via Exhibit 14. Dual merchants' sales volume increased by the smallest percentage, 3.6%, of all merchant groups during 1986. Using an average of the printing and industrial producer price index change of 0.5%, this translates to a "real" increase of 3.1% — the same as in 1985.

The "sales mix" or sales path shifted to a ten year near-high of 60.3% warehouse sales, up from 53.5% the prior year. Indirect shipments accounted for 6.9% of total revenues, up over last year and closer to historical levels. Conversely, dual merchants had the lowest share of their sales since 1982 derived from direct sales — 33% in 1986.

The size of a dual merchant's average warehouse order fell 9% to \$305, while the typical indirect order was worth \$544,

down 26%. 1985 seems to have been an atypical year for indirect and direct order sizes. The average direct order was worth \$2,006 in 1986, falling 45% from \$3,599 a year earlier.

PROFITABILITY PERFORMANCE

The profit model in Exhibit 16 tracks dual merchant profitability ratios from 1975-86 (refer to Appendix C for an explanation of the model's components). The model examines a merchant's performance in sales management, the management of assets as resources used to produce those sales, and their management as assets subject to creditor/owner claims.

For the second year in a row, dual houses' profitability paralleled that of printing paper firms in that it worsened

EXHIBIT 15

SALES PERFORMANCE MEASURES
FOR DUAL PAPER MERCHANTS(All Values Are Composite Averages)¹

PERFORMANCE MEASURES	1978	1979	1980	1981	1982	1983	1984	1985	1986	Your Firm
% SALES CHANGE OVER PRIOR YEAR (%)	13.0	14.2	11.5	8.4	-4.2	6.5	14.2	1.4	3.6	
WAREHOUSE SALES ² — % TOTAL SALES (%)	53.3	58.1	55.2	55.2	61.3	56.6	56.2	53.5	60.3	
INDIRECT SALES ² — % TOTAL SALES (%)	6.8	7.1	6.4	7.2	8.0	7.8	7.3	5.0	6.9	
WHSE & IND SALES ² — % TOTAL SALES (%)	59.6	63.1	61.7	62.0	68.8	64.5	63.9	60.0	66.9	
DIRECT SALES ² — % TOTAL SALES (%)	40.4	36.9	38.4	38.0	31.2	35.5	36.1	40.0	33.1	
AVERAGE WAREHOUSE ORDER SIZE (\$)	212	234	282	304	283	296	335	333	305	
AVERAGE INDIRECT ORDER SIZE (\$)	513	535	624	635	548	577	584	731	544	
AVERAGE WHSE & IND ORDER SIZE (\$)	222	248	298	319	298	296	320	347	313	
AVERAGE DIRECT ORDER SIZE (\$)	2,266	2,424	2,796	2,948	2,193	2,708	3,024	3,599	2,006	

Sources: Management Foresight, Inc./NPTA

¹See Appendix B for a discussion of composite averages.²As discussed in Appendix E, the addition of an "indirect sales" category reduced the comparability of the 1978, and later, sales values to the 1977, and earlier, results. However, the 1978 and later results are mutually comparable.

EXHIBIT 16
DUAL PAPER MERCHANTS' PROFIT MODEL PERFORMANCE¹
(Composite Average Values)²

	(1)	×	(2)	=	(3)	×	(4)	=	(5)	(6)
	NET PROFIT BEFORE TAX		NET SALES		NET PROFIT BEFORE TAX		TOTAL ASSETS		NET PROFIT BEFORE TAX	RETURN ON CAPITAL
	NET SALES		TOTAL ASSETS		TOTAL ASSETS		NET WORTH		NET WORTH	EMPLOYED ³
	(%)		(X)		(%)		(X)		(%)	(%)
1986	2.32		3.95		9.03		1.60		14.52	12.99
1985	2.72		4.16		11.06		1.54		17.15	14.56
1984	2.56		4.72		12.08		1.68		23.16	21.41
1983	2.50		4.30		10.74		1.76		20.41	18.20
1982	2.23		4.70		10.58		1.96		20.86	18.24
1981	3.13		4.64		14.55		1.85		23.95	21.28
1980	3.42		4.66		15.32		1.84		28.14	24.41
1979	3.41		4.32		14.22		1.87		26.56	23.72
1978	2.85		4.57		12.40		1.94		23.99	20.23
1977	2.65		4.53		12.29		1.90		23.40	20.72
1976	2.71		4.48		12.13		1.98		23.95	19.60
1975	3.53		4.29		15.16		2.29		34.71	25.50

¹See Appendix C for a discussion of the MFI Profit Model.

²The measures shown under column 1-5 are computed individually. Therefore, the values in column 3 are the result of dividing Net Profit Before Tax by Total Assets and are not the result of multiplying column 1's values by column 2's values; the values in column 5 are the result of dividing Net Profit Before Tax by Net Worth and are not the result of multiplying column 3's values by column 4's values.

³Return on Capital Employed was defined in 1977 and prior years as "net profit before taxes plus interest on borrowed funds minus income from outside investments" divided by "net worth, or owner's equity, plus long term debt minus outside investments." In 1978 and later years, Bank Loans Due in Less Than One Year was added to the denominator of the ratio (the capital invested) to recognize that some, if not most, of the total interest paid by the typical paper distributor resulted from bank loans. See Appendix D for a complete definition of the measures.

almost across-the-board. Return on Net Sales (net profit before tax as a percent of net sales) dropped from 2.72% to 2.32%, the second worst showing in twelve years. ROIA (Return on Total Assets — net profit before tax as a percent of total assets), probably the most critical yardstick, hit a twelve-year low of 9.03%. Return on Net Worth (net profit before tax as a percent of net worth) plummeted from 17.15% to 14.52%, and Return on Capital Employed dropped from 14.56% to 12.99%. Both were twelve-year lows.

As discussed in the printing paper chapter, lower inflation rates will naturally bring down these measures, but the magnitude of the declines suggests more than inflation at work here.

Analyzing these profit measures by company size, in contrast to 1985, the *smallest* dual firms (under \$10 million sales volume) registered the best return on capital employed at 16.59%. They also posted the best ROIA at 9.98% and return on net sales at 3.10%. The biggest dual firms (over \$65 million in sales) had the highest return on net worth at 15.69% and second best ROIA of 9.84%.

PROFIT MARGIN MANAGEMENT

Exhibit 17 presents ten key measures of profit margin management for dual paper distributors from 1978-86. Prior to 1978, merchant sales were studied in terms of two sales paths (i.e. warehouse sales and direct sales). Beginning with

the 1978 report, merchants separated indirect sales from warehouse sales so that sales are now studied in terms of four paths — warehouse and direct sales as before and also for indirect and warehouse & indirect sales.

Warehouse gross margins are the lowest of all merchant groups, and fell more than a full percentage point to 21.7% of warehouse sales during 1986. This is the lowest level and the only time margins dipped below 22% since 1977. Indirect margins held up pretty well at 18.5% of indirect sales, and the same was true of direct margins, which remained near the historically high rate of 9.4% of direct sales. By company size, dual firms under the \$25 million class had the best warehouse margins (23%) and the smallest and largest dual houses posted the best direct margins (14.3% and 9.89% respectively).

Operating expenses relative to gross margins rose to a ten year high of 88% of gross margin dollars, not a good sign. Non-people expenses remained at high levels of 30.2% and total employee compensation rose from 59.6% to 60.8% of gross margins. The largest dual houses incurred the lowest operating costs in 1986, a continuation of 1985 performance.

Net sales per employee fell 4% to \$316,000 while gross margin dollars per employee declined by an equal amount to \$55,100. Sales service and selling expenses combined were cut to 36.7% of gross margin dollars in 1986. This percentage is in line with levels of the past five years. Net

sales and gross margin dollars per employee rose steadily by company size, until reaching the \$65 million class, where they declined.

ASSET MANAGEMENT PERFORMANCE

Exhibit 18 provides a picture of several key asset management measures. The most important of these, the Total Asset Turnover (net sales to total assets) dipped to a ten year low of 3.95 times in 1986. Inventory was turned over at a rate of 5.32 times per year, the same as in 1985. Primarily due to the

lower warehouse gross margin, the gross margin return on inventory also fell to a ten year low of 149% in 1986. As for receivables, the average collection period remained stable at 39.4 days. Companies in the \$10-25 million dual merchant class posted the best gross margin return on inventory by far, at 161%, and also had the least amount of receivables outstanding.

FINANCIAL MANAGEMENT

Exhibit 19 tracks four financial management indicators for

EXHIBIT 17

PROFIT MARGIN PERFORMANCE MEASURES FOR DUAL PAPER MERCHANTS

(All Values Are Composite Averages)

PROFITABILITY ¹	1978	1979	1980	1981	1982	1983	1984	1985	1986	Your Firm
WAREHOUSE GROSS MARGIN										
— % WHSE SALES (%)	22.4	23.4	23.6	22.6	22.7	22.8	22.3	22.9	21.7	
INDIRECT GROSS MARGIN										
— % INDIRECT SALES (%)	17.4	18.3	17.9	17.5	18.3	18.0	17.9	18.9	18.5	
WHSE & IND GROSS MARGIN										
— % WHSE & IND SALES (%)	22.6	22.9	23.1	22.3	22.3	22.3	21.9	22.7	21.4	
DIRECT GROSS MARGIN										
— % DIRECT SALES (%)	8.6	9.1	8.5	8.3	9.2	8.7	8.7	9.5	9.4	
OPERATING EXPENSE CONTROL										
OPERATING EXPENSE										
— % OF GROSS MARGIN (%)	83.2	82.1	81.4	83.1	87.8	87.4	86.9	86.1	88.0	
NON-PEOPLE EXPENSE										
— % OF GROSS MARGIN (%)	—	—	24.1	26.7	28.5	27.4	28.9	30.3	30.2	
TOTAL EMPLOYEE COMPENSATION										
— % GROSS MARGIN (%)	60.8	57.6	57.4	56.7	60.4	60.5	58.7	59.6	60.8	
PERSONNEL PRODUCTIVITY										
NET SALES PER EMPLOYEE (\$000)	211	233	242.5	255.6	258.9	287.2	316.6	328.8	316.0	
GROSS MARGIN PER EMPLOYEE (\$000)	35.2	40.7	44.1	46.7	47.0	50.0	54.3	57.2	55.1	
SALES SVC & SELL EXPENSE										
— % GROSS MARGIN (%)	34.1	33.3	35.2	36.1	36.7	36.5	36.4	37.7	36.7	

¹This survey studied only warehouse and direct sales until indirect sales were separated and excluded from warehouse sales starting with data for 1978. Thus, the published values for 1977 and earlier years are not directly comparable with values for 1978 and later years. However, values for 1978 and later years are mutually comparable.

EXHIBIT 18**ASSET MANAGEMENT PERFORMANCE MEASURES FOR DUAL PAPER MERCHANTS***(All Values Are Composite Averages, Unless Otherwise Noted)*

OVERALL ASSET MANAGEMENT	1978	1979	1980	1981	1982	1983	1984	1985	1986	Your Firm
NET SLS TO TOTAL ASSETS (X)	4.57	4.32	4.66	4.69	4.70	4.30	4.72	4.16	3.95	
INVENTORY MANAGEMENT										
INVENTORY TURNOVER (X) ¹	5.72	5.48	5.02	5.34	5.75	5.76	6.43	5.32	5.32	
GROSS MARGIN RETURN ON INVENTORY (%) ²	165	167	155	156	169	170	185	158	149	
ACCOUNTS RECEIVABLE MANAGEMENT										
AVG. COLLECTION PERIOD (DAYS) ³ (Weighted Mean)	39.6	40.3	38.4	37.5	37.0	40.1	40.5	39.4	39.4	

¹Inventory Turnover is calculated as Cost of Warehouse Goods Sold to Average Inventory (average of beginning and ending inventories for the year). However, remember that the definition of warehouse sales was narrowed to exclude indirect sales for 1978 and later years.

²Gross Margin Return On Inventory is defined as Gross Margin On Warehouse Sales divided by Average Inventory. Starting with the 1978 data, indirect sales were separated and excluded from warehouse sales. Thus, the above values for 1977 and earlier years are not directly comparable with the values for 1978 and later years. However, the values for 1978 and later years are mutually comparable.

³The calculation approach used for each measure is defined in Appendix D.

EXHIBIT 19**FINANCIAL MANAGEMENT MEASURES FOR DUAL PAPER MERCHANTS***(All Values Are Medians)*

FINANCIAL LEVERAGE	1980	1981	1982	1983	1984	1985	1986
TOTAL DEBT TO NET WORTH (%)	101.2	69.0	49.2	48.7	58.7	42.6	46.3
CURRENT DEBT TO NET WORTH (%)	76.4	52.5	46.2	46.4	40.9	41.6	46.3
ABILITY TO PAY CURRENT DEBTS							
CURRENT ASSETS MINUS INVENTORY TO CURRENT DEBT (X)	1.51	1.61	1.78	1.63	1.75	1.87	1.66
DAYS PAYABLES OUTSTANDING ON DEC. 31 (DAYS)	19.8	18.1	18.4	18.0	16.2	17.1	19.8

dual merchant firms. Both Total Debt to Net Worth and Current Debt to Net Worth stood at 46.3% in 1986, not much change over 1985 levels. The "Quick Ratio" (current assets less inventory, to current debt), however, worsened, to 1.66 times. But, this is not that much lower than most of the past

5-6 years. Dual merchants seem to pay their bills quicker than either printing or industrial merchants. Days of payables outstanding were lowest of all groups at 19.8 days in 1986, but this was up more than 2½ days over 1985.

PERFORMANCE BY CUSTOMER/MARKET GROUP

As explained in the industrial paper chapter, new "customer emphasis" group statistics were developed for dual firms as well as industrial. Exhibit 20 displays overall and sales department-related productivity measures by three distinct markets for the first time: dual houses concentrating on selling to: Industrial Manufacturers, "Miscellaneous/Other Markets" such as health care disposables, Government, etc., and Full-Line Distributors with no particular specialty.

Net sales and gross profits per employee were the highest for the "miscellaneous markets" group at \$414,600 and \$65,500, respectively. Sales generated per sales department employee were also highest at \$785,500. Gross profits per sales department employee were tied for the highest at \$131,000. However, total sales service and selling costs together accounted for the highest share of gross profits at 39.8%.

Sales per outside sales rep were also highest for this "miscellaneous" group at \$2,115 million, but reps working for dual firms specializing in this area had the highest average salary, \$23,400.

As for profitability, return on sales was much better for full-line distributors (2.29%) than those concentrating on industrial manufacturers (0.82%). Gross margins per employee were also higher, \$53,520 vs. \$46,100, and total operating costs were lower at 88.3% of gross margins, versus 91.8%.

Those dual merchants classified as full-line distributors had a lot less receivables relative to total assets than those concentrating on "other" markets, 41.2% of total assets compared to 66.2%, and less total current assets overall (83.1% vs. 93.5%).

EXHIBIT 20

DUAL PAPER MERCHANTS BY CUSTOMER EMPHASIS GROUPS 1986

(All Data Are Medians)

SPECIALIZATION IN:

OVERALL PRODUCTIVITY MEASURES

	INDUSTRIAL MFG.	FULL LINE DISTRIBUTOR	OTHER MARKETS**
Net Sales Per Employee (\$000)	\$277.5	\$282.1	\$414.6
Gross Profit Per Employee (\$000)	49.9	53.3	65.5
Total Compensation As % Gross Profit	-	63.8	59.5
Personnel Productivity Index (all empl.) ¹	-	1.57	1.68

SALES COMPENSATION MEASURES

Overall Sales Department

Sales Per Sales Dept. Employee (\$000)	\$628.9	\$710.4	\$785.5
Gross Profit Per Sales Dept. Employee (\$000)	123.0	131.0	131.0
Sales Service & Selling Exp. As % Gross Profit	37.0	35.5	39.8

Outside Sales Reps

*Sales Per Outside Sales Rep (\$000)	\$971.1	\$1,100.1	\$1,279.1
*Gross Profit Per Outside Sales Rep (\$000)	176.3	194.3	200.8
*Avg. Pay & Travel Exp. (\$000)	-	-	48.9
*Avg. Pay & Travel Exp. As % G.P. (%)	-	-	25.1

Sales Service Personnel

Sales Per Sales Service Emp. (\$000)	\$2,012.1	\$2,045.6	\$2,115.2
Gross Profit Per Sales Service Emp. (\$000)	360.8	400.7	397.3
Avg. Pay of Sales Service Emp. (\$000)	15.8	21.2	23.4

¹The personnel Productivity Index is defined as: gross profit per employee divided by average compensation per employee. This is a measure that compares the gross profit generated by your employees to the total compensation they earn during the period. Other things being equal, you should prefer a higher PPI value.

*includes supervisors

**Health care disposables, miscellaneous (not incl. janitorial supplies, food service, industrial mfg., or retail packaging).

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ABBREVIATIONS USED IN TABLES

ACCTS REC	= ACCOUNTS RECEIVABLE
EXP	= EXPENSE
GM	= GROSS MARGIN, GROSS TRADING MARGIN
IND	= INDIRECT
INV	= INVENTORY
IP	= INDUSTRIAL PAPER
%	= PERCENT
PP	= PRINTING PAPER
NPBT	= NET PROFIT BEFORE TAXES
SLS	= SALES
WHSE	= WAREHOUSE

TABLE 1

MERCHANT COMMODITY GROUP'* PERFORMANCE MEASURES** (COMPOSITE MEANS) SUMMARIZING 1986 OPERATIONS

PERFORMANCE MEASURE	ALL PRINTING PAPER MERCHANTS	ALL INDUSTRIAL PAPER MERCHANTS	ALL DUAL PAPER MERCHANTS
1. RETURN ON CAPITAL EMPLOYED (%)	14.77	13.44	12.99
2. NPBT AS % NET WORTH (%)	17.41	15.21	14.52
3. TOTAL ASSETS TO NET WORTH (X)	2.01	1.83	1.60
4. NPBT AS % TOTAL ASSETS (%)	8.59	8.18	9.03
5. NPBT AS % NET SALES (NON-LIFO ADJ; %)	2.18	2.08	2.32
6. NET SALES TO TOTAL ASSETS (X)	4.06	3.96	3.95
7. WHSE GM AS % WHSE SALES (%)	22.47	24.43	21.72
8. WHSE & IND GM AS % WHSE & IND SLS (%)	22.17	23.93	21.43
9. DIRECT GM AS % DIRECT SALES (%)	6.32	13.73	9.41
10. WHSE & IND SLS AS % TOTAL SLS (%)	50.48	77.49	66.95
11. % SLS CHANGE OVER PRIOR YEAR (%)	6.48	7.18	3.59
12. NET SALES PER EMPLOYEE (\$000)	484.88	229.63	314.58
13. GM PER EMPLOYEE (\$000)	69.02	49.39	54.93
14. PAYROLL AS % GM (%)	48.11	55.67	51.51
15. SLS SERVICE & SELLING EXP AS % GM (%)	37.44	37.97	36.76
16. OPERATING EXP AS % GM (%)	85.43	93.74	88.05
17. INV TURNOVER (WHSE ONLY; X)	4.43	6.24	5.32
18. GM RETURN ON INV (WHSE ONLY; %)	128.51	195.85	148.92
19. DAYS SLS IN ACCTS REC ON NOV 30 (DAYS) ...	43.86	38.36	39.37

*Appendix B sets forth the formation and measure of merchant commodity groups.

**Appendix D defines the performance measures.

NOTE: All the above measures calculated on a non-LIFO basis, beginning with 1985 data.

TABLE 2A

PRINTING PAPER MERCHANTS' PERFORMANCE MEASURES* (COMPOSITE MEANS+) SUMMARIZING ALL FIRMS AND PROFITABILITY (ROTA**) GROUPS

1986

PERFORMANCE MEASURE	YOUR FIRM	ALL PRINTING PAPER MERCHANTS	RETURN ON TOTAL ASSET GROUPS FOR ALL PRINTING PAPER MERCHANTS**		
			LOW PROFIT GROUP	MIDDLE PROFIT GROUP	HIGH PROFIT GROUP
1. RETURN ON CAPITAL EMPLOYED (%)		14.77	6.01	13.68	25.24
2. NPBT AS % NET WORTH (%)		17.41	-3.22	15.76	25.23
3. TOTAL ASSETS TO NET WORTH (X)		2.01	5.85	1.83	1.49
4. NPBT AS % TOTAL ASSETS (%)		8.59	-0.58	8.65	16.91
5. NPBT AS % NET SALES (NON-LIFO ADJ; %)		2.18	-0.12	2.29	4.03
6. NET SALES TO TOTAL ASSETS (X)		4.06	4.68	3.77	4.20
7. WHSE GM AS % WHSE SALES (%)		22.47	21.42	22.02	25.65
8. WHSE & IND GM AS % WHSE & IND SLS (%)		22.16	20.33	21.74	24.24
9. DIRECT GM AS % DIRECT SALES (%)		6.32	5.64	6.67	6.64
10. WHSE & INDIRECT SALES AS % TOTAL SALES (%)		50.48	31.80	56.29	54.67
11. % SALES CHANGE OVER PRIOR YEAR (%)		6.48	6.96	5.93	6.35
12. NET SALES PER EMPLOYEE (\$000)		484.88	614.89	455.67	452.81
13. GM PER EMPLOYEE (\$000)		69.02	64.41	68.12	73.63
14. PAYROLL AS % GM (%)		48.11	52.90	49.53	43.66
15. SALES SERVICE & SELLING EXP AS % GM (%)		37.44	46.61	37.87	31.36
16. TOTAL OPERATING EXP AS % GM (%)		85.43	96.87	86.41	77.56
17. INV TURNOVER (WHSE ONLY; X)		4.43	4.52	4.46	4.20
18. GM RETURN ON INV (WHSE ONLY; %)		128.51	121.92	126.08	145.25
19. DAY SALES IN ACCTS REC ON NOV 30 (DAYS)		43.86	46.47	43.06	42.31

*Appendix D defines the performance measures.

+These composite mean values are mutually comparable, however comparisons with previous years' median values should be made with caution.

**Appendix B sets forth the formation and measure of profitability groups, namely, of Return on Total Assets (ROTA) groups.

NOTE: All the above measures calculated on a non-LIFO basis, beginning with 1985 data.

TABLE 2B

PRINTING PAPER MERCHANTS' PERFORMANCE MEASURES* (COMPOSITE MEANS+) SUMMARIZING SALES VOLUME AND EMPHASIS GROUPS**

PERFORMANCE MEASURE	YOUR FIRM	1986 SALES VOLUME GROUPS				WAREHOUSE, INDIRECT & DIRECT SALES EMPHASIS GROUPS			
		UNDER \$10MM	\$10 TO \$20MM	\$20 TO \$55MM	\$55MM & OVER	OVER 65% DIRECT	35-55% WHSE & INDIRECT	55-75% WHSE & INDIRECT	75 + % WHSE & INDIRECT
1. RETURN ON CAPITAL EMPLOYED (%)		15.51	12.12	14.91	14.88	10.87	16.49	18.58	12.89
2. NPBT AS % NET WORTH (%)		20.90	14.61	18.18	17.41	14.14	19.75	18.38	14.90
3. TOTAL ASSETS TO NET WORTH (X)		2.42	1.82	1.86	2.04	4.23	1.98	1.53	1.71
4. NPBT AS % TOTAL ASSETS (%)		6.42	8.13	9.70	8.54	3.34	9.96	11.37	8.70
5. NPBT AS % NET SALES (NON-LIFO ADJ; %)		1.54	1.97	2.86	2.09	0.68	2.36	3.07	2.71
6. NET SALES TO TOTAL ASSETS (X)		4.15	4.21	3.85	4.08	4.88	4.29	3.81	3.21
7. WHSE GM AS % WHSE SALES (%)		22.27	23.60	23.58	22.14	21.03	22.39	22.53	22.86
8. WHSE & IND GM AS % WHSE & IND SLS (%)		22.35	21.85	23.17	21.97	20.53	22.47	21.90	22.62
9. DIRECT GM AS % DIRECT SALES (%)		9.47	7.32	7.04	6.07	5.87	6.08	7.43	7.20
10. WHSE & INDIRECT SALES AS % TOTAL SALES (%) ...		60.95	58.31	55.82	48.56	19.82	47.62	62.59	81.85
11. % SALES CHANGE OVER PRIOR YEAR (%)		11.08	0.38	4.41	7.33	8.21	6.56	4.47	7.80
12. NET SALES PER EMPLOYEE (\$000)		313.33	415.52	449.43	507.91	881.68	551.83	394.17	299.92
13. GM PER EMPLOYEE (\$000)		58.38	65.62	72.12	69.25	77.39	76.62	64.97	59.57
14. PAYROLL AS % GM (%)		47.21	47.58	46.54	48.58	52.12	48.12	46.98	46.87
15. SALES SERVICE & SELLING EXP AS % GM (%)		32.76	37.23	35.87	37.96	48.55	35.21	34.74	37.03
16. TOTAL OPERATING EXP AS % GM (%)		90.61	87.65	83.79	83.35	90.20	84.01	83.02	87.37
17. INV TURNOVER (WHSE ONLY; X)		5.94	4.82	4.92	4.32	4.02	4.87	4.44	4.20
18. GM RETURN ON INV (WHSE ONLY; %)		160.26	151.70	157.08	123.14	106.64	140.56	131.16	123.89
19. DAY SALES IN ACCTS REC ON NOV 30 (DAYS)		35.97	46.42	46.17	43.51	45.87	42.53	41.42	46.03

*Appendix D defines the performance measures.

+These composite mean values are mutually comparable, however comparisons with previous years' median values should be made with caution.

**Appendix B sets forth the formation and measure of sales volume and emphasis groups.

NOTE: All the above measures calculated on a non-LIFO basis, beginning with 1985 data.

TABLE 2C
PRINTING PAPER MERCHANTS'
PERFORMANCE MEASURES* (COMPOSITE MEANS**)
SUMMARIZING NPITA REGIONAL GROUPS
1986

NPITA REGIONS

Region 1: CT, ME, MA, NH, RI & VT
Region 2: DE, DC, MD, NJ, NY & PA
Region 3: AL, FL, GA, NC, SC, TN & VA

Region 4: KY, MI, OH & WV
Region 5: CO, IA, KS, MN, MT,
NE, ND, SD & WY

Region 6: AK, AZ, CA, HI, ID, NV,
NM, OR, UT & WA
Region 7: AR, LA, MS, OK & TX
Region 8: WI, IL, IN & MO

PERFORMANCE MEASURE	YOUR FIRM	REGIONAL GROUPS FOR ALL PRINTING PAPER MERCHANTS							
		REGION 1	REGION 2	REGION 3	REGION 4	REGION 5	REGION 6	REGION 7	REGION 8
1. RETURN ON CAPITAL EMPLOYED (%)		19.88	13.42	16.94	19.28	21.65	14.78	+	19.76
2. NPBT AS (%) NET WORTH (%)		21.51	17.35	18.97	17.43	24.61	17.42	+	21.22
3. TOTAL ASSETS TO NET WORTH (X)		1.72	2.06	1.57	1.42	1.82	1.90	+	1.86
4. NPBT AS % TOTAL ASSETS (%)		12.51	8.32	11.60	11.18	13.53	9.20	+	11.13
5. NPBT AS % NET SALES (NON-LIFO ADJ; %)		3.03	2.14	3.40	2.56	3.40	2.67	+	2.47
6. NET SALES TO TOTAL ASSETS (X)		4.13	3.91	3.43	4.73	4.06	3.75	+	4.36
7. WHSE GM AS % WHSE SALES (%)		+	22.97	22.40	22.73	23.96	22.37	+	24.96
8. WHSE & IND GM AS % WHSE & IND SLS (%)		23.20	22.81	21.82	21.42	24.06	21.96	+	23.34
9. DIRECT GM AS % DIRECT SALES (%)		7.64	6.45	7.25	7.93	6.60	5.53	+	6.03
10. WHSE & INDIRECT SALES AS % TOTAL SALES (%)		55.44	46.13	74.86	48.20	47.55	62.43	+	45.27
11. % SALES CHANGE OVER PRIOR YEAR (%)		5.51	5.24	5.97	4.48	7.68	6.16	+	11.72
12. NET SALES PER EMPLOYEE (\$000)		436.66	508.33	324.64	494.31	502.19	477.03	+	534.37
13. GM PER EMPLOYEE (\$000)		71.03	71.15	57.33	71.32	74.82	75.31	+	75.76
14. PAYROLL AS % GM (%)		47.40	48.52	46.95	46.60	47.82	44.84	+	47.51
15. SALES SERVICE & SELLING EXP AS % GM (%)		35.15	35.55	33.10	37.73	38.00	33.41	+	36.29
16. TOTAL OPERATING EXP AS % GM (%)		82.55	86.57	84.92	83.62	79.91	83.27	+	83.27
17. INV TURNOVER (WHSE ONLY; X)		+	5.53	4.54	4.49	4.68	3.95	+	3.74
18. GM RETURN ON INV (WHSE ONLY; %)		+	165.12	131.06	132.40	149.67	114.68	+	128.29
19. DAY SALES IN ACCTS REC ON NOV 30 (DAYS)		+	43.16	38.96	43.64	45.51	40.90	+	40.72

*Appendix D defines the performance measures.

**These composite mean values are mutually comparable, however comparisons with previous years' median values should be made with caution.

*Not calculated if less than four firms reported data.

NOTE: All the above measures calculated on a non-LIFO basis, beginning with 1985 data.

TABLE 3A

INDUSTRIAL PAPER MERCHANTS' PERFORMANCE MEASURES* (COMPOSITE MEANS) SUMMARIZING ALL FIRMS AND PROFITABILITY (ROTA**) GROUPS

PERFORMANCE MEASURE	YOUR FIRM	1986	RETURN ON TOTAL ASSETS GROUPS FOR ALL INDUSTRIAL PAPER MERCHANTS**		
		ALL INDUSTRIAL PAPER MERCHANTS (WEIGHTED MEAN)	LOW PROFIT	MIDDLE PROFIT	HIGH PROFIT
			GROUP	GROUP	GROUP
1. RETURN ON CAPITAL EMPLOYED (%)		13.44	-0.72	10.20	30.86
2. NPBT AS % NET WORTH (%)		15.21	-0.11	11.95	31.11
3. TOTAL ASSETS TO NET WORTH (X)		1.83	2.81	1.78	1.47
4. NPBT AS % TOTAL ASSETS (%)		8.20	-0.53	6.73	21.18
5. NPBT AS % NET SALES (NON-LIFO ADJ; %)		2.08	-0.14	1.72	4.92
6. NET SALES TO TOTAL ASSETS (X)		3.96	3.78	3.91	4.31
7. WHSE GM AS % WHSE SLS (%)		24.43	25.46	24.27	23.63
8. WHSE & IND GM AS % WHSE & IND SLS (%)		23.93	25.43	23.77	23.11
9. DIRECT GM AS % DIRECT % SLS (%)		13.73	14.47	12.94	16.05
10. WHSE & IND SLS AS % TOTAL SLS (%)		77.49	80.72	75.23	80.97
11. % SLS CHANGE OVER PRIOR YEAR (%)		7.18	12.76	4.42	10.41
12. NET SALES PER EMPLOYEE (\$000)		229.63	184.40	241.87	250.05
13. GM PER EMPLOYEE (\$000)		49.39	41.88	51.04	53.89
14. TOTAL PAYROLL AS % GM (%)		55.67	58.87	56.25	51.22
15. SLS SERVICE & SELLING EXP AS % GM (%)		37.97	37.50	39.11	35.76
16. TOTAL OPERATING EXP AS % GM (%)		93.74	101.08	95.80	82.33
17. INV TURNOVER (WHSE ONLY; X)		6.24	5.36	5.77	9.10
18. GM RETURN ON INV (WHSE ONLY; %)		195.85	186.43	181.17	268.91
19. DAYS SLS IN ACCTS REC ON NOV 30 (DAYS)		38.36	40.66	39.10	34.82

*Appendix D defines the performance measures.

**Appendix B sets forth the formation and measure of profitability groups, namely, of Return on Total Assets (ROTA) groups.

NOTE: All the above measures calculated on a non-LIFO basis, beginning with 1985 data.

TABLE 3B

INDUSTRIAL PAPER MERCHANTS' PERFORMANCE MEASURES* (COMPOSITE MEANS) SUMMARIZING SALES VOLUME AND EMPHASIS GROUPS**

1986

PERFORMANCE MEASURE	YOUR FIRM	SALES VOLUME GROUPS					WAREHOUSE-INDIRECT SALES EMPHASIS GROUPS		
		UNDER \$3.0MM	\$3.0 TO \$6.0MM	\$6.0 TO \$12MM	\$12MM TO \$25MM	OVER \$25MM	UNDER 75% WHSE & INDIRECT	75% TO 90% WHSE & INDIRECT	90% & OVER WHSE & INDIRECT
1. RETURN ON CAPITAL EMPLOYED (%)		12.04	5.11	10.03	16.02	13.40	11.39	18.75	11.73
2. NPBT AS % NET WORTH (%)		20.87	12.74	17.16	16.99	13.81	12.47	17.61	17.63
3. TOTAL ASSETS TO NET WORTH (X)		1.81	1.74	2.33	1.67	1.81	1.64	1.93	1.98
4. NPBT AS % TOTAL ASSETS (%)		11.55	7.31	6.40	10.18	7.65	7.62	8.55	8.89
5. NPBT AS % NET SALES (NON-LIFO ADJ; %)		3.36	2.43	1.69	2.47	1.90	1.93	2.13	2.29
6. NET SALES TO TOTAL ASSETS (X)		3.44	3.21	3.88	4.12	4.03	3.94	4.01	3.93
7. WHSE GM AS % WHSE SLS (%)		25.56	24.37	28.83	24.10	22.77	23.87	24.93	24.39
8. WHSE & IND GM AS % WHSE & IND SLS (%)		25.68	24.22	27.64	24.27	22.46	23.72	23.81	24.26
9. DIRECT GM AS % DIRECT SLS (%)		25.31	12.28	16.45	16.64	11.67	13.82	13.31	14.22
10. WHSE & IND SLS AS % TOTAL SLS (%)		93.18	90.58	79.55	77.38	75.05	61.22	84.33	95.70
11. % SLS CHANGE OVER PRIOR YEAR (%)		11.54	5.92	8.50	5.23	7.89	2.84	13.88	6.97
12. NET SALES PER EMPLOYEE (\$000)		138.53	187.78	199.18	227.46	259.20	273.26	203.15	205.23
13. GM PER EMPLOYEE (\$000)		36.61	43.24	50.45	49.45	51.01	53.59	45.03	49.78
14. TOTAL PAYROLL AS % GM (%)		55.98	54.74	55.77	56.61	55.02	56.76	55.80	54.96
15. SLS SERVICE & SELLING EXP AS % GM (%)		32.71	37.16	38.77	40.87	36.29	41.68	34.15	36.50
16. TOTAL OPERATING EXP AS % GM (%)		88.60	90.96	94.05	92.38	95.07	96.01	93.15	91.52
17. INV TURNOVER (WHSE ONLY; X)		+	6.35	5.53	6.39	+	5.68	5.91	7.77
18. GM RETURN ON INV (WHSE ONLY; %)		+	200.34	242.55	202.51	+	172.69	196.21	242.31
19. DAYS SLS IN ACCTS REC ON NOV 30 (DAYS)		36.07	33.60	40.48	36.08	39.76	39.53	36.18	37.45

*Appendix D defines the performance measures.

**Appendix B sets forth the formation and measure of sales volume and emphasis groups.

+Not calculated if less than four firms reported data.

NOTE: All the above measures calculated on a non-LIFO basis, beginning with 1985 data.

TABLE 3C
INDUSTRIAL PAPER MERCHANTS'
PERFORMANCE MEASURES* (COMPOSITE MEANS**)
SUMMARIZING NPTA REGIONAL GROUPS

1986

NPTA REGIONS

Region 1: CT, ME, MA, NH, RI & VT
Region 2: DE, DC, MD, NJ, NY & PA
Region 3: AL, FL, GA, NC, SC, TN & VA

Region 4: KY, MI, OH & WV
Region 5: CO, IA, KS, MN, MT, NE, ND, SD & WY

Region 6: AK, AZ, CA, HI, ID, NV, NM, OR, UT & WA
Region 7: AR, LA, MS, OK & TX
Region 8: WI, IL, IN & MO

PERFORMANCE MEASURE	YOUR FIRM	REGIONAL GROUPS FOR ALL INDUSTRIAL PAPER MERCHANTS							
		REGION 1	REGION 2	REGION 3	REGION 4	REGION 5	REGION 6	REGION 7	REGION 8
1. RETURN ON CAPITAL EMPLOYED (%)		+	20.55	18.06	20.78	+	7.31	+	11.92
2. NPBT AS (%) NET WORTH (%)		15.63	22.06	20.13	23.01	16.67	8.50	6.62	12.75
3. TOTAL ASSETS TO NET WORTH (X)		2.33	2.05	1.60	1.77	1.48	1.49	2.05	2.12
4. NPBT AS % TOTAL ASSETS (%)		6.72	10.74	12.58	13.01	11.28	5.05	3.24	6.01
5. NPBT AS % NET SALES (NON-LIFO ADJ; %)		2.16	2.63	3.14	3.09	2.78	1.28	0.84	1.48
6. NET SALES TO TOTAL ASSETS (X)		3.41	4.08	4.00	4.21	4.06	3.94	3.86	4.06
7. WHSE GM AS % WHSE SALES (%)		24.91	24.78	24.75	22.80	24.26	24.28	+	24.16
8. WHSE & IND GM AS % WHSE & IND SLS (%)		24.54	23.89	24.70	22.46	24.23	24.22	24.66	23.04
9. DIRECT GM AS % DIRECT SALES (%)		20.03	11.51	17.74	12.61	11.20	13.30	+	14.40
10. WHSE & INDIRECT SALES AS % TOTAL SALES (%)		89.72	82.38	79.84	84.66	93.63	65.50	76.94	72.15
11. % SALES CHANGE OVER PRIOR YEAR (%)		5.40	6.75	5.54	10.38	6.84	0.27	22.45	6.07
12. NET SALES PER EMPLOYEE (\$000)		212.70	232.72	174.32	258.31	224.17	283.22	185.30	254.06
13. GM PER EMPLOYEE (\$000)		51.17	50.92	40.88	53.02	52.47	56.47	40.83	51.75
14. PAYROLL AS % GM (%)		54.38	53.30	61.61	50.77	52.23	57.89	58.40	56.72
15. SALES SERVICE & SELLING EXP AS % GM (%)		37.26	31.14	40.85	39.01	35.52	44.30	+	43.00
16. TOTAL OPERATING EXP AS % GM (%)		91.28	89.33	90.04	90.97	92.87	100.21	98.42	94.49
17. INV TURNOVER (WHSE ONLY; X)		+	8.04	6.43	6.39	+	5.22	+	6.10
18. GM RETURN ON INV (WHSE ONLY; %)		+	268.58	211.71	184.87	+	156.32	+	198.64
19. DAY SALES IN ACCTS REC ON NOV 30 (DAYS)		46.96	37.96	36.03	35.26	+	41.63	+	35.85

*Appendix D defines the performance measures.

**These composite mean values are mutually comparable, however comparisons with previous years' median values should be made with caution.

+Not calculated if less than four firms reported data.

NOTE: All the above measures calculated on a non-LIFO basis, beginning with 1985 data.

TABLE 3D

INDUSTRIAL PAPER MERCHANTS' PERFORMANCE MEASURES* (COMPOSITE MEANS), RESULTS BY CUSTOMER EMPHASIS GROUPS

1986

PERFORMANCE MEASURE	YOUR FIRM	SPECIALIZATION IN:			
		FOOD SERVICE	INDUSTRIAL MANUFACTURING	RETAIL/MATCHED PACKAGING	FULL LINE DISTRIBUTOR
1. RETURN ON CAPITAL EMPLOYED (%)		12.51	16.34	+	12.82
2. NPBT AS % NET WORTH (%)		14.15	20.76	18.54	13.60
3. TOTAL ASSETS TO NET WORTH (X)		2.61	1.93	4.22	1.73
4. NPBT AS % TOTAL ASSETS (%)		5.43	9.81	4.39	7.86
5. NPBT AS % NET SALES (NON-LIFO ADJ.; %)		1.77	2.32	1.61	1.98
6. NET SALES TO TOTAL ASSETS (X)		3.46	4.23	2.72	3.97
7. WHSE GM AS % WHSE SLS (%)		23.11	25.10	+	24.12
8. WHSE & IND GM AS % WHSE & IND SLS (%)		21.51	25.00	+	23.64
9. DIRECT GM AS % DIRECT SLS (%)		14.56	16.85	+	12.26
10. WHSE & IND SLS AS % TOTAL SLS (%)		80.36	72.13	+	78.17
11. % SLS CHANGE OVER PRIOR YEAR (%)		5.49	5.90	+	7.59
12. NET SALES PER EMPLOYEE (\$000)		235.32	221.27	156.36	236.12
13. GM PER EMPLOYEE (\$000)		47.42	48.19	51.03	49.94
14. TOTAL PAYROLL AS % GM (%)		52.32	57.31	+	55.53
15. SLS SERVICE & SELLING EXP AS % GM (%)		26.39	39.54	42.04	38.17
16. TOTAL OPERATING EXP AS % GM (%)		92.44	91.32	97.35	94.65
17. INV TURNOVER (WHSE ONLY; X)		+	6.13	+	6.24
18. GM RETURN ON INV (WHSE ONLY; %)		+	197.78	+	194.67
19. DAYS SLS IN ACCTS REC ON NOV. 30 (DAYS)		38.03	37.49	+	38.31

* Appendix D defines the performance measures.

+ Not calculated if less than four firms reported data.

NOTE: All the above measures calculated on a non-LIFO basis,
beginning with 1985 data.

TABLE 4A

DUAL MERCHANTS' PERFORMANCE MEASURES* (COMPOSITE MEANS) SUMMARIZING ALL FIRMS AND PROFITABILITY (ROTA**) GROUPS

PERFORMANCE MEASURE	YOUR FIRM	ALL DUAL PAPER MERCHANTS	1986 RETURN ON TOTAL ASSET GROUPS FOR ALL DUAL PAPER MERCHANTS**		
			LOW PROFIT GROUP	MIDDLE PROFIT GROUP	HIGH PROFIT GROUP
1. RETURN ON CAPITAL EMPLOYED (%)		12.99	6.07	13.52	22.96
2. NPBT AS % NET WORTH (%)		14.52	2.78	13.19	24.85
3. TOTAL ASSETS TO NET WORTH (X)		1.60	2.07	1.45	1.51
4. NPBT AS % TOTAL ASSETS (%)		9.03	1.33	9.08	16.45
5. NPBT AS % NET SALES (NON-LIFO ADJ; %) ...		2.32	0.37	2.36	3.75
6. NET SALES TO TOTAL ASSETS (X)		3.95	3.64	3.86	4.39
7. WHSE GM AS % WHSE SALES (%)		21.72	21.48	21.53	23.11
8. WHSE & IND GM AS % WHSE & IND SLS (%) ...		21.43	21.34	21.39	21.81
9. DIRECT GM AS % DIRECT SLS (%)		9.41	8.98	8.80	11.30
10. WHSE & IND SLS AS % TOTAL SLS (%)		66.95	71.16	68.45	62.50
11. % SLS CHANGE OVER PRIOR YEAR (%)		3.59	0.30	1.54	6.40
12. NET SALES PER EMPLOYEE (\$000)		314.59	302.77	307.99	325.05
13. GM PER EMPLOYEE (\$000)		54.93	53.93	53.77	58.08
14. TOTAL PAYROLL AS % GM (%)		51.51	54.67	52.39	50.89
15. SLS SERVICE & SELLING EXP AS % GM (%) ..		36.76	34.79	38.36	39.37
16. TOTAL OPERATING EXP AS % GM (%)		88.05	96.66	90.17	80.63
17. INV TURNOVER (WHSE ONLY; X)		5.32	5.18	5.22	5.80
18. GM RETURN ON INV (WHSE ONLY; %)		148.92	141.56	143.35	173.92
19. DAYS SLS IN ACCTS REC ON NOV 30 (DAYS) ..		39.37	42.74	38.94	36.62

*Appendix D defines the performance measures.

**Appendix B sets forth the formation and measure of profitability groups, namely, of Return on Total Assets (ROTA) groups.

NOTE: All the above measures calculated on a non-LIFO basis, beginning with 1985 data.

TABLE 4B

DUAL MERCHANTS' PERFORMANCE MEASURES* (COMPOSITE MEANS) SUMMARIZING SALES VOLUME AND EMPHASIS GROUPS**

1986

PERFORMANCE MEASURE	YOUR FIRM	SALES VOLUME GROUPS				WAREHOUSE-INDIRECT SALES EMPHASIS GROUPS		
		UNDER \$10MM	\$10MM TO \$25MM	\$25MM TO \$65MM	\$65MM & OVER	UNDER 65% WHSE & INDIRECT	65% TO 80% WHSE & INDIRECT	80% & OVER WHSE & INDIRECT
1. RETURN ON CAPITAL EMPLOYED (%)		16.59	12.83	8.44	14.14	16.59	8.73	15.97
2. NPBT AS % NET WORTH (%)		13.89	12.63	9.10	15.69	20.30	7.29	14.04
3. TOTAL ASSETS TO NET WORTH (X)		1.39	1.79	1.64	1.60	1.48	1.86	1.49
4. NPBT AS % TOTAL ASSETS (%)		9.98	6.27	5.56	9.84	13.74	3.88	9.41
5. NPBT AS % NET SALES (NON-LIFO ADJ; %)		3.10	2.19	1.86	2.44	3.32	1.06	2.48
6. NET SALES TO TOTAL ASSETS (X)		2.74	4.12	4.04	3.96	4.15	3.81	3.84
7. WHSE GM AS % WHSE SLS (%)		23.21	23.03	21.31	21.69	21.63	22.02	21.35
8. WHSE & IND GM AS % WHSE & IND SLS (%)		24.56	22.78	21.29	21.26	21.09	21.65	21.53
9. DIRECT GM AS % DIRECT SLS (%)		14.33	9.47	8.02	9.89	9.10	9.05	12.11
10. WHSE & IND SLS AS % TOTAL SLS (%)		85.67	71.51	57.45	68.85	54.40	72.98	82.44
11. % SLS CHANGE OVER PRIOR YEAR (%)		3.80	4.30	5.87	2.89	4.72	1.77	4.58
12. NET SALES PER EMPLOYEE (\$000)		229.30	293.46	358.66	308.57	380.14	293.72	258.24
13. GM PER EMPLOYEE (\$000)		53.22	55.33	56.10	54.68	59.39	53.60	51.29
14. TOTAL PAYROLL AS % GM (%)		51.38	51.20	50.71	51.81	49.16	53.07	53.21
15. SLS SERVICE & SELLING EXP AS % GM (%)		34.74	39.04	37.51	36.41	37.40	35.31	38.38
16. TOTAL OPERATING EXP AS % GM (%)		89.75	89.84	88.78	87.66	80.97	93.50	90.50
17. INV TURNOVER (WHSE ONLY; X)		+	5.36	5.32	5.34	5.24	4.97	6.11
18. GM RETURN ON INV (WHSE ONLY; %)		+	161.14	140.33	150.01	141.69	145.45	164.57
19. DAYS SLS IN ACCTS REC ON NOV 30 (DAYS) ...		+	36.66	39.67	39.42	36.73	41.10	39.87

*Appendix D defines the performance measures.

**Appendix B sets forth the formation and measure of sales volume and emphasis groups.

+Not calculated if less than four data provided.

NOTE: All the above measures calculated on a non-LIFO basis, beginning with 1985 data.

TABLE 4C
DUAL PAPER MERCHANTS'
PERFORMANCE MEASURES* (COMPOSITE MEANS**)
SUMMARIZING NPTA REGIONAL GROUPS

1986

NPTA REGIONS

Region 1: CT, ME, MA, NH, RI & VT
Region 2: DE, DC, MD, NJ, NY & PA
Region 3: AL, FL, GA, NC, SC, TN & VA

Region 4: KY, MI, OH & WV
Region 5: CO, IA, KS, MN, MT,
NE, ND, SD & WY

Region 6: AK, AZ, CA, HI, ID, NV,
NM, OR, UT & WA
Region 7: AR, LA, MS, OK & TX
Region 8: WI, IL, IN & MO

PERFORMANCE MEASURE	YOUR FIRM	REGIONAL GROUPS FOR ALL DUAL PAPER MERCHANTS								
		REGION 1	REGION 2	REGION 3	REGION 4	REGION 5	REGION 6	REGION 7	REGION 8	REGION 9
1. RETURN ON CAPITAL EMPLOYED (%)		+	+	+	20.52	+	+	+	17.53	+
2. NPBT AS (%) NET WORTH (%)		+	+	21.81	21.63	17.37	+	+	18.96	12.27
3. TOTAL ASSETS TO NET WORTH (X)		+	+	1.52	1.53	1.74	+	+	1.53	1.43
4. NPBT AS % TOTAL ASSETS (%)		+	+	14.38	14.14	9.96	+	7.20	12.38	8.61
5. NPBT AS % NET SALES (NON-LIFO ADJ; %)		+	+	3.39	2.61	2.43	+	2.30	2.88	2.09
6. NET SALES TO TOTAL ASSETS (X)		+	+	3.72	5.53	4.54	+	3.50	4.36	4.11
7. WHSE GM AS % WHSE SALES (%)		+	+	+	21.56	24.15	+	23.99	21.06	+
8. WHSE & IND GM AS % WHSE & IND SLS (%)		+	+	21.16	21.28	22.99	+	23.48	20.80	21.71
9. DIRECT GM AS % DIRECT SALES (%)		+	+	12.88	8.89	9.43	+	7.94	7.61	+
10. WHSE & INDIRECT SALES AS % TOTAL SALES (%)		+	+	69.07	49.27	71.67	+	75.39	50.40	58.59
11. % SALES CHANGE OVER PRIOR YEAR (%)		+	+	5.80	7.59	7.73	+	-3.88	7.25	2.01
12. NET SALES PER EMPLOYEE (\$000)		+	+	269.87	430.48	316.11	+	249.74	450.58	402.07
13. GM PER EMPLOYEE (\$000)		+	+	50.09	64.55	60.92	+	49.08	64.24	62.35
14. PAYROLL AS % GM (%)		+	+	52.38	48.34	50.85	+	50.96	48.85	+
15. SALES SERVICE & SELLING EXP AS % CM (%)		+	+	35.35	37.86	39.58	+	34.88	38.13	+
16. TOTAL OPERATING EXP AS % GM (%)		+	+	80.42	84.08	90.35	+	89.58	82.63	94.62
17. INV TURNOVER (WHSE ONLY; X)		+	+	+	6.03	+	+	+	5.10	+
18. GM RETURN ON INV (WHSE ONLY; %)		+	+	+	165.29	+	+	+	136.27	+
19. DAY SALES IN ACCTS REC ON NOV 30 (DAYS)		+	+	38.80	37.11	+	+	39.14	35.15	+

*Appendix D defines the performance measures.

**These composite mean values are mutually comparable, however comparisons with previous years' median values should be made with caution.

+Not calculated if less than four firms reported data.

NOTE: All the above measures calculated on a non-LIFO basis, beginning with 1985 data.

TABLE 4D

DUAL MERCHANTS' PERFORMANCE MEASURES* (COMPOSITE MEANS), RESULTS BY CUSTOMER EMPHASIS GROUPS

1986

PERFORMANCE MEASURE	YOUR FIRM	SPECIALIZATION IN:			
		FOOD SERVICE	INDUSTRIAL MANUFACTURING	RETAIL/MATCHED PACKAGING	FULL LINE DISTRIBUTOR
1. RETURN ON CAPITAL EMPLOYED (%)		+	+	+	11.21
2. NPBT AS % NET WORTH (%)		+	+	+	13.09
3. TOTAL ASSETS TO NET WORTH (X)		+	+	+	1.59
4. NPBT AS % TOTAL ASSETS (%)		+	+	+	8.20
5. NPBT AS % NET SALES (NON-LIFO ADJ.; %)		+	0.82	+	2.29
6. NET SALES TO TOTAL ASSETS (X)		+	+	+	3.65
7. WHSE GM AS % WHSE SLS (%)		+	+	+	21.33
8. WHSE & IND GM AS % WHSE & IND SLS (%)		+	22.48	+	21.16
9. DIRECT GM AS % DIRECT SLS (%)		+	9.91	+	9.40
10. WHSE & IND SLS AS % TOTAL SLS (%)		+	68.21	+	69.28
11. % SLS CHANGE OVER PRIOR YEAR (%)		+	2.47	+	2.76
12. NET SALES PER EMPLOYEE (\$000)		+	249.41	+	304.78
13. GM PER EMPLOYEE (\$000)		+	46.10	+	53.52
14. TOTAL PAYROLL AS % GM (%)		+	53.32	+	51.95
15. SLS SERVICE & SELLING EXP AS % GM (%)		+	36.97	+	35.68
16. TOTAL OPERATING EXP AS % GM (%)		+	91.83	+	88.25
17. INV TURNOVER (WHSE ONLY; X)		+	+	+	5.23
18. GM RETURN ON INV (WHSE ONLY; %)		+	+	+	142.47
19. DAYS SLS IN ACCTS REC ON NOV. 30 (DAYS)		+	+	+	40.05

* Appendix D defines the performance measures.

+ Not calculated if less than four firms reported data.

NOTE: All the above measures calculated on a non-LIFO basis,
beginning with 1985 data.

TABLE 5

CONDENSED OPERATING STATEMENTS FOR PRINTING, INDUSTRIAL & DUAL PAPER MERCHANTS
(WEIGHTED MEANS & MEDIAN -- % OF NET SALES*)
1986

OPERATING STATEMENT	ALL PRINTING PAPER MERCHANTS		ALL INDUSTRIAL PAPER MERCHANTS		ALL DUAL PAPER MERCHANTS	
	WEIGHTED MEAN	MEDIAN	WEIGHTED MEAN	MEDIAN	WEIGHTED MEAN	MEDIAN
TOTAL SALES (%)	100.00	100.00	100.00	100.00	100.00	100.00
TOTAL COST OF GOODS SOLD (%)	85.67	84.10	78.39	76.97	82.54	82.15
GROSS TRADING MARGIN (%)	14.33	15.90	21.61	23.03	17.46	17.86
TOTAL OPERATING EXPENSES (%)	12.24	13.52	20.25	21.21	15.38	16.51
NET OPERATING PROFIT (%)	2.09	2.09	1.35	1.65	2.08	2.17
FINANCIAL GAINS						
CASH DISCOUNTS EARNED (%)	1.49	1.47	1.11	1.08	1.24	1.27
INCOME FROM OUTSIDE INVESTMENTS (%)	0.02	0.00	0.11	0.00	0.05	0.00
ALL OTHER GAINS (%)	0.27	0.24	0.62	0.10	0.38	0.09
TOTAL FINANCIAL GAINS (%)	1.75	1.62	1.71	1.33	1.59	1.40
FINANCIAL LOSSES						
CASH DISCOUNTS ALLOWED (%)	1.17	1.13	0.39	0.37	0.91	0.96
INTEREST ON BORROWED CAPITAL (%)	0.63	0.43	0.54	0.50	0.59	0.51
ALL OTHER LOSSES (%)	0.05	0.00	0.20	0.01	0.08	0.00
TOTAL FINANCIAL LOSSES (%)	1.62	1.43	0.94	0.79	1.20	1.17
NET FINANCIAL GAIN OR LOSS (%)	0.11	0.18	0.78	0.75	0.27	0.32
NET PROFIT BEFORE TAXES (%)	2.18	2.24	2.08	1.94	2.32	2.35
CORPORATE INCOME TAXES (%)	0.99	0.84	0.98	0.71	1.06	0.85
NET PROFIT AFTER TAXES (%)	1.12	1.14	1.22	1.49	1.16	1.26

*The percentages may not add to exactly 100% because some firms did not report some items.

TABLE 6
COMPOSITE BALANCE SHEETS FOR PRINTING, INDUSTRIAL & DUAL PAPER MERCHANTS
(WEIGHTED MEANS AS % OF TOTAL ASSETS*)

	1986		
	ALL PRINTING PAPER MERCHANTS	ALL INDUSTRIAL PAPER MERCHANTS	ALL DUAL PAPER MERCHANTS
BALANCE SHEET			
ASSETS			
CASH & MARKETABLE SECURITIES (%)	0.75	4.24	0.31
ACCOUNTS & NOTES RECEIVABLE, TRADE (%) .	53.32	42.88	47.15
INVENTORY (%)	30.47	35.28	35.33
OTHER CURRENT ASSETS (%)	2.03	1.71	2.90
TOTAL CURRENT ASSETS (%)	86.57	84.10	85.69
NET FIXED ASSETS (%)	8.79	13.07	11.69
OUTSIDE INVESTMENTS (%)	0.97	0.93	0.16
OTHER NON-CURRENT ASSETS (%)	3.77	1.89	2.51
TOTAL ASSETS (%)	100.00	100.00	100.00
LIABILITIES AND NET WORTH			
ACCOUNTS PAYABLE (%)	25.26	23.41	24.62
BANK LOANS (LESS THAN ONE YEAR) (%)	10.15	5.35	2.25
OTHER CURRENT LIABILITIES (%)	4.95	6.95	5.80
TOTAL CURRENT LIABILITIES (%)	40.36	35.52	32.67
LONG TERM LIABILITIES (%)	11.50	5.81	5.68
CAPITAL & SURPLUS (EQUITY) (%)	48.14	58.68	61.65
TOTAL LIABILITIES & NET WORTH (%)	100.00	100.00	100.00

*The percentages may not add to exactly 100% because some firms did not report some items.

TABLE 7

CONDENSED OPERATING STATEMENTS FOR INDUSTRIAL & DUAL PAPER MERCHANTS, BY CUSTOMER EMPHASIS GROUP
(WEIGHTED MEANS -- % OF NET SALES*)

1986

OPERATING STATEMENT	INDUSTRIAL - SPECIALIZATION IN:				DUAL - SPECIALIZATION IN:		
	FOOD SERVICE	INDUSTRIAL MFG.	RETAIL/MATCHED PACKAGING	FULL LINE DISTRIB.	INDUSTRIAL MFG.	FULL LINE DISTRIB.	OTHER MARKETS**
TOTAL SALES (%)	100.00	100.00	100.00	100.00	100.00	100.00	100.00
TOTAL COST OF GOODS SOLD (%)	79.85	77.80	67.36	78.81	81.52	82.44	83.66
GROSS TRADING MARGIN (%)	20.15	22.20	32.64	21.19	18.48	17.56	16.34
TOTAL OPERATING EXPENSES (%)	18.63	20.27	31.78	20.05	16.97	15.50	13.94
NET OPERATING PROFIT (%)	1.52	1.93	0.86	1.13	1.34	2.06	2.40
FINANCIAL GAINS							
CASH DISCOUNTS EARNED (%)	1.04	1.00	+	1.16	+	1.24	1.26
INCOME FROM OUTSIDE INVESTMENTS (%)	0.06	0.06	+	0.14	+	0.08	0.00
ALL OTHER GAINS (%)	0.92	0.40	+	0.66	+	0.48	0.00
TOTAL FINANCIAL GAINS (%)	1.94	1.54	+	1.77	1.19	1.67	1.26
FINANCIAL LOSSES							
CASH DISCOUNTS ALLOWED (%)	+	0.40	+	0.37	+	0.89	0.88
INTEREST ON BORROWED CAPITAL (%)	1.19	0.64	+	0.39	+	0.64	+
ALL OTHER LOSSES (%)	0.12	0.14	+	0.23	+	0.09	0.00
TOTAL FINANCIAL LOSSES (%)	1.70	1.06	+	0.88	1.71	1.23	0.88
NET FINANCIAL GAIN OR LOSS (%)	0.36	0.44	+	0.90	-0.52	0.27	0.38
NET PROFIT BEFORE TAXES (%)	1.77	2.32	1.61	1.98	0.82	2.29	2.79
CORPORATE INCOME TAXES (%)	1.03	0.80	0.21	1.01	+	1.01	1.40
NET PROFIT AFTER TAXES (%)	0.82	1.11	1.40	1.26	+	1.13	1.40

* The percentages may not add to exactly 100% because some firms did not report some items.

** Health care disposables, miscellaneous (not incl. janitorial supplies, food service, industrial mfg., or retail packaging).

+ Data not published if less than four firms reported.

TABLE 8

COMPOSITE BALANCE SHEETS FOR INDUSTRIAL & DUAL PAPER MERCHANTS, BY CUSTOMER EMPHASIS GROUP
(WEIGHTED MEANS AS % OF TOTAL ASSETS*)

1986

BALANCE SHEET	INDUSTRIAL: SPECIALIZING IN:			DUAL: SPECIALIZING IN:	
	FOOD SERVICE	INDUSTRIAL MFG.	FULL LINE DISTRIBUTOR	FULL LINE DISTRIBUTOR	OTHER MARKETS **
<u>ASSETS</u>					
CASH & MARKETABLE SECURITIES (%)	0.76	4.19	4.74	2.54	-8.58
ACCOUNTS & NOTES RECEIVABLE, TRADE (%) ..	36.87	47.65	41.73	41.24	66.19
INVENTORY (%)	39.64	35.69	34.77	35.20	35.45
OTHER CURRENT ASSETS (%)	3.53	2.09	1.43	4.08	0.47
TOTAL CURRENT ASSETS (%)	80.79	89.62	82.67	83.06	93.53
NET FIXED ASSETS (%)	8.25	8.94	14.78	13.65	6.42
OUTSIDE INVESTMENTS (%)	0.05	0.54	1.16	0.17	0.00
OTHER NON-CURRENT ASSETS (%)	10.91	0.88	1.39	3.22	0.04
TOTAL ASSETS (%)	100.00	100.00	100.00	100.00	100.00
<u>LIABILITIES AND NET WORTH</u>					
ACCOUNTS PAYABLE (%)	27.17	21.33	23.31	25.60	24.42
BANK LOANS (LESS THAN ONE YEAR) (%)	13.87	11.52	2.79	0.98	0.00
OTHER CURRENT LIABILITIES (%)	4.31	8.22	6.94	5.46	6.19
TOTAL CURRENT LIABILITIES (%)	45.35	39.91	33.04	32.04	30.61
LONG TERM LIABILITIES (%)	18.22	3.72	4.77	6.72	0.00
CAPITAL & SURPLUS (EQUITY) (%)	36.42	56.37	62.19	61.24	69.39
TOTAL LIABILITIES & NET WORTH (%)	100.00	100.00	100.00	100.00	100.00

* The percentages may not add to exactly 100% because some firms did not report some items.

** Health care disposables, miscellaneous (not incl. janitorial supplies, food service, industrial mfg., or retail packaging).

APPENDIX A

CHARACTERISTICS OF THE PARTICIPANTS IN THE NPTA/MFI 1981-86 ANNUAL PERFORMANCE SURVEYS

MEDIAN SALES OF PARTICIPANTS (\$000)

SURVEY YEAR	<u>1981</u>	<u>1982</u>	<u>1983</u>	<u>1984</u>	<u>1985</u>	<u>1986</u>
PRINTING EMPHASIS	\$14,612	\$16,895	\$18,182	\$24,634	\$20,507	\$22,608
INDUSTRIAL EMPHASIS	6,727	7,488	9,730	8,189	8,926	8,932
DUAL EMPHASIS	12,539	12,532	15,048	17,074	29,770	32,886

TOTAL SALES OF PARTICIPANTS (\$000)

SURVEY YEAR	<u>1981</u>	<u>1982</u>	<u>1983</u>	<u>1984</u>	<u>1985</u>	<u>1986</u>
PRINTING EMPHASIS	\$2,476,786	\$3,110,473	\$3,512,794	\$4,221,325	\$4,319,779	\$5,045,321
INDUSTRIAL EMPHASIS	755,234	1,147,055	1,322,117	1,052,368	1,184,606	1,250,156
DUAL EMPHASIS	<u>2,499,820</u>	<u>1,943,188</u>	<u>2,043,805</u>	<u>1,751,069</u>	<u>2,107,398</u>	<u>3,086,642</u>
TOTAL	\$5,731,840	\$6,200,716	\$6,878,716	\$7,024,762	\$7,611,783	\$9,382,119

PERCENT OF TOTAL SALES REPRESENTED BY EACH GROUP

SURVEY YEAR	<u>1981</u>	<u>1982</u>	<u>1983</u>	<u>1984</u>	<u>1985</u>	<u>1986</u>
PRINTING EMPHASIS	43.21%	50.16%	51.06%	60.09%	56.75%	53.77%
INDUSTRIAL EMPHASIS	13.18	18.50	19.22	14.98	15.56	13.32
DUAL EMPHASIS	<u>43.61</u>	<u>31.34</u>	<u>29.71</u>	<u>24.92</u>	<u>27.68</u>	<u>32.89</u>
TOTAL	100.00	100.00	100.00	100.00	100.00	100.00

APPENDIX B

SURVEY METHODOLOGY

For 1976 and prior years, the NPTA Survey results published in Paper Merchant Performance were developed from data submitted by the member firms to Price Waterhouse & Company. Price Waterhouse accumulated this financial information and submitted "summary totals" and "certain averages" to NPTA. The summary data were grouped and developed by NPTA. (See page 68 of the 1977 edition of Paper Merchant Performance for details.)

For 1977-1986, all data were submitted to Management Foresight, Inc. (MFI) of Columbus, Ohio; MFI calculated all results.

When there is a change from one survey approach to another, there are potential continuity problems. Therefore, the remainder of the appendix will discuss the 1977-1986 methodology in some detail and, as appropriate, the methodology used in earlier years.

CALCULATION APPROACHES

In 1977-1986, medians, quartiles, and composite averages were used as statistical measures. Most of the results in the Exhibits which form the basis for most of the discussion in the main body of the report are composite averages. Most of the results in the supplementary tables of this report and of the individual PAR Reports are presented as medians.

COMPOSITE AVERAGES

A composite average is an excellent measure of how a group of firms is doing as a whole. It is calculated by first adding together all appropriate dollar values or other values such as number of people and then calculating the ratio or performance measure. For example, to calculate the composite average Net Profit Before Taxes to Net Sales for All Paper Merchant Firms in Exhibit 2, the Net Profit Before Taxes for all firms were added together, the Net Sales for all firms were added together, and the following calculation was made:

$$\frac{\text{NET PROFIT BEFORE TAXES}}{\text{NET SALES}} = \frac{\text{Total NET PROFIT BEFORE TAXES for All Firms in the Survey}}{\text{Total NET SALES for All Firms}}$$

As an example, the 1977 dollar values are shown below:

$$\frac{\text{Total NET PROFIT BEFORE TAXES for All Firms}}{\text{Total NET SALES for All Firms}} = \frac{\$ 99,348,500}{3,763,119,920} = 2.64\%$$

If a firm did not supply all of the data needed for a particular calculation, then none of its data were used to develop the industry totals for that particular measure (if it supplied the needed data for other measures, then its data would be used to calculate those measures).

MEDIAN AND QUARTILE VALUES

Three values are generally reported for each performance measure in the PAR Reports. They are the upper quartile value -- the median figure -- and the lower quartile value. The results presented in Tables 1 through 6 of this report are generally medians.

For any given performance measure, these three figures are calculated by, first, arraying (or arranging) all the numerical values of the performance measure as calculated for each firm in numerical order from the strongest to the weakest. The figure that falls in the middle of the array, or the listing of values, is the median. One-half of the firms had stronger performance and one-half of the firms had weaker performance.

The word "Quartile" implies that something is broken down into quarter segments. The upper quartile value is the figure one-quarter of the way down from the very strongest number. Or, it is the figure halfway between the very strongest and the median value. The lower quartile figure would be the value one-quarter up from the very weakest ratio. It is the figure halfway between the median and the weakest value.

The presentation and use of median-quartile values minimizes the distortion caused by one firm reporting a very unusual value for a performance measure due to a mistake or because of some special circumstances. For example, a new firm that had sustained several years of losses might have a very small owners's equity--say \$10. If the firm recovered and achieved a profit of, say \$100,000, the calculated return on net worth would be \$100,000/\$10, or 1,000,000%. Thus, an average type of summary measure could be seriously distorted. The methodology of identifying the median is, on the other hand, not as sensitive to such unusual figures; it treats an unusually large quantity the same as it treats any other figure above the median. For most applications, this results in more meaningful comparative values.

In addition, the median value is more representative of how individual firms (or division) have performed. While a composite average is dominated by the results of the larger firms, large and small firms have the same influence on a median. Therefore, it is desirable to examine both the median and the composite average for important performance measures.

Because of the approach used, the firm whose performance was the median for one performance measure may be, and probably is, different than the firm which was the median for another measure. This occurs because all of the values are resorted and independent medians and quartiles are calculated for each performance measure. Thus, there is no single upper quartile firm -- or median firm -- or lower quartile firm in this report.

For 1977 and 1978, firms were asked to report for their operations in each of the six NPTA Regions. Thus, a firm with operations in only one region submitted one survey form. A firm with operations in two, or more, NPTA regions submitted either one form for all its operations, or individual forms for its regional operations. In 1979, firms were allowed to report on a branch basis if complete branch data could be provided. From 1979-83, there were seven NPTA regions. For 1984 and 1985, there were eight, and for 1986 there were nine.

THE ORGANIZATION OF INFORMATION

This survey sets up three major groups of firms by commodity line:

GROUP I: PRINTING PAPER MERCHANTS takes together all firms obtaining 80%, or more, of their total sales from the sale of printing papers.

GROUP II: INDUSTRIAL PAPER MERCHANTS takes together all firms obtaining 80%, or more, of their total sales from the sale of industrial papers.

GROUP III: DUAL PAPER MERCHANTS takes together all firms obtaining less than 80% of their total sales from the sale of either printing or industrial papers.

Groups One, Two and Three were sorted into five subgroups.

GROUP I - PRINTING PAPER MERCHANTS

The Printing Paper Merchant firms were sorted into five types of subgroups:

1. One (1) All Reporting Printing Paper Emphasis Firms Group
2. Nine (9) NPTA Geographic Regions Groups
3. Four (4) Sales Volume Groups
 - Under \$10 Million in Sales
 - \$10 - 20 Million in Sales
 - \$20 - 55 Million in Sales
 - Over \$55 Million in Sales
4. Three (3) Return On Total Assets (ROTA) Groups. The printing paper firms were sorted into three profitability groups based upon their return before taxes on total assets. In effect, each performance measure is shown as a median value for the top 25% of the printing paper firms in terms of profitability, for the middle 50% and for the bottom 25%. (ROTA sorting is discussed later in this appendix.)

5. Four (4) Warehouse-Indirect-Direct Sales Path Groupings. The printing paper firms were sorted into four sales paths because many performance measures differ significantly depending on warehouse-indirect-direct sales mixes. The following criteria produced subgroups of approximately the same size.

Over 65%	Direct Sales
35-55%	Warehouse and Indirect Sales
55-75%	Warehouse and Indirect Sales
75% or More	Warehouse and Indirect Sales

GROUP II - INDUSTRIAL PAPER MERCHANTS

The Industrial Paper Merchants were sorted into five types of subgroups:

1. One (1) All Reporting Industrial Paper Emphasis Firms Group
2. Nine (9) NPTA Geographic Regional Groups
3. Five (5) Sales Volume Groups
 - Under \$3.0 Million in Sales
 - \$3.0 - 6.0 Million in Sales
 - \$6.0 - 12 Million in Sales
 - \$12 - \$25 Million in Sales
 - Over \$25 Million in Sales
4. Three (3) Return On Total Assets (ROTA) Groups. The industrial paper firms were similarly sorted into their own profitability groups based upon the return on assets of the top 25%, middle 50%, and lower 25% of the reporting industrial merchant firms.
5. Three (3) Warehouse-Indirect Sales Path Groupings. The industrial paper firms were sorted into three warehouse-indirect sales emphasis groupings.

Under 75%	Warehouse and Indirect Sales
75% to 90%	Warehouse and Indirect Sales
90% and Over	Warehouse and Indirect Sales

GROUP III- DUAL PAPER MERCHANTS

The Dual Paper Merchants were sorted into five subgroups:

1. One (1) All Dual Paper Merchant Firms
2. Nine (9) NPTA Geographic Regional Groups
3. Four (4) Sales Volume Groups
 - \$Under\$10 Million in Sales
 - \$10 - 25 Million in Sales
 - \$25 - 65 Million in Sales
 - Over \$65 Million in Sales
4. Three (3) Return On Total Assets (ROTA) Groups.
5. Three (3) Warehouse-Indirect Sales Emphasis Groups

Under 65%	Warehouse and Indirect Sales
65 - 80%	Warehouse and Indirect Sales
Over 80%	Warehouse and Indirect Sales

RETURN ON TOTAL ASSET (ROTA) GROUPS

Return On Total Assets (ROTA) is an excellent measure of operational performance because it combines measures of profitability, i.e., Net Profit Margin, and asset management, viz., Total Asset Turnover:

Return On Total Assets = Net Profit Margin x Total Asset Turnover

$$\frac{\text{Net Profit Before Taxes}}{\text{Total Assets}} = \frac{\text{Net Profit Before Taxes}}{\text{Net Sales}} \times \frac{\text{Net Sales}}{\text{Total Assets}}$$

Firms are separated into three ROTA subgroups, representing high, middle, and low returns on total assets values, and the various performance measures are computed for each ROTA group. The discussion below and Figure 1 to the right explain how these ROTA Group measures are developed.

Firstly, calculate ROTA for each firm. (Step 1.) Secondly, arrange the ROTA values for the firms in order from highest to lowest. (Step 2.) In the example in Figure 1, the highest ROTA achieved by any firm was 22.38%, while the lowest was -8.69%. The sorting process shown in Figure 1 assumes that there are 60 firms in the sample. Three ROTA groups are defined using the upper and lower quartile values as the cutoff points. (Step 3.)

	<u>Number of Firms in Groups</u>	<u>Ranges of ROTA Values for Firms in Groups</u>
High ROTA Groups	15	10.69% to 22.38%
Middle ROTA Groups	30	3.53% to 10.69%
Low ROTA Groups	15	-8.68% to 3.53%

These three groups of firms remain fixed for all following calculations.

After establishing the three ROTA groups, the median for each performance measure is calculated for each group. For example, the Gross Profit Margin (%) of each firm in each group is calculated. (Step 4.) Then the Gross Profit Margin (%) values are arranged in order from highest to lowest within each group. (Step 5.) The median value is selected in each of the three groups. (Step 6.) These three median values are reported as the representative performance of each of the three ROTA groups. The determination of the median of the high ROTA group is illustrated in the figure.

The procedure in Steps 4, 5, and 6 is repeated for each performance measure for each major product emphasis group. Thus, if there are 300 performance measures in the survey, the calculation, rank ordering and median selection process would be repeated 900 times for each group to produce the median values for the three ROTA groups.

The ROTA group data are usually valuable because they reflect the different operating policies and performance levels of the low, middle, and high profit firms in a major group. ROTA group data should not be the sole basis for major policy changes, but they usually identify areas that should be explored more carefully.

FIGURE 1: DEVELOPMENT OF ROTA GROUP DATA

STEP 1 Calculate ROTA for each firm:

$$\text{ROTA} = \frac{\text{Net Profit Before Taxes}}{\text{Total Assets}} = \frac{\$70,000}{\$1,000,000} = 7.00\%$$

STEP 2 Arrange the firms' ROTA values from highest to lowest as illustrated below to the right.

STEP 3 Separate the firms into 3 groups:
a HIGH ROTA GROUP composed of those firms whose ROTAs were above the industry upper quartile ROTA value (10.69% in this case); a LOW ROTA GROUP composed of those firms whose ROTAs were below the industry lower quartile ROTA value (3.53%); and a MIDDLE ROTA GROUP composed of those firms whose ROTAs were between the two quartile values (Between 3.53% and 10.69%).

STEP 4 Within each of the 3 ROTA GROUPS, calculate each performance measure.

STEP 5 Arrange the results from high to low in each of the 3 groups for each measure.

STEP 6 Determine the median value for each measure in each ROTA group. This value is published as the representative performance measure for the group.

ROTA GROUP FIRM ARRAY			
HIGHEST ROTA: 22.38%			
H	R	G	.
I	O	R	.
G	T	O	.
H	A	U	.
		P	.
UPPER QUARTILE: 10.69%			
M			.
I			.
D			.
D			.
L			.
E			.
MEDIAN 6.83%			
R			.
O			.
T			.
A			.
			.
G			.
R			.
O			.
U			.
P			.
LOWER QUARTILE: 3.53%			
L	R	G	.
O	O	R	.
W	T	O	.
	A	U	.
		P	.
LOWEST ROTA: -8.69%			

ILLUSTRATION OF THE MEDIAN OF THE HIGH ROTA GROUP

	High ROTA Group
The Highest ROTA	22.38%
	.
	.
THE MEDIAN OF HIGH ROTA GROUP	15.21%
	.
	.
The Upper Quartile ROTA	10.69%

APPENDIX C

MFI PROFIT MODEL

The profit model summarizes a firm's, or an industry's, performance in three key management areas: sales profit margin management, asset management and financial position management. The model actually proceeds in two phases. Firstly, the return on sales and the asset turnover are multiplied for the return on assets. The product of this multiplication is also known as the measure Return On Total Assets (ROTA).

$$\frac{\text{Net Profit Before Taxes}}{\text{Net Sales}} \times \frac{\text{Net Sales}}{\text{Total Assets}} = \frac{\text{Net profit Before Taxes, or (ROTA)}}{\text{Total Assets}}$$

Secondly, Return On Total Assets (ROTA) and the leverage multiplier are multiplied for the measure Return On Net Worth (RONW), that is:

$$\text{ROTA} \times \text{Financial Leverage Multiplier} = \text{RONW}$$

These two phases are customarily run together in summary fashion. We will display the model and substitute values from the financial statements of the fictitious Alpha Paper Company.

Alpha Paper's Data:	Net Sales	=	\$10,000,000
	Net Profit Before Taxes	=	350,000
	Total Assets	=	2,700,000
	Total Debt	=	1,350,000
	Net Worth	=	1,350,000

Alpha Paper's Profit Model:

<u>Profit Margin</u> <u>On Sales</u>	x	<u>Total Asset</u> <u>Turnover</u>	=	<u>Return On</u> <u>Total Assets</u>	x	<u>Financial</u> <u>Leverage</u> <u>Multiplier</u>	=	<u>Return On</u> <u>Net Worth</u>
<u>Net profit</u> <u>Before Taxes</u> <u>Net Sales</u>	x	<u>Net Sales</u> <u>Total Assets</u>	=	<u>Net profit</u> <u>Before Taxes</u> <u>Total Assets</u>	x	<u>Total Assets</u> <u>Net Worth</u>	=	<u>Net profit</u> <u>Before Taxes</u> <u>Net Worth</u>
\$ 350,000 \$10,000,000	x	\$10,000,000 \$ 2,700,000	=	\$ 350,000 \$2,700,000	x	\$2,700,000 \$1,350,000	=	\$ 350,000 \$1,350,000
3.5%		3.70		12.96%		2.00		25.93%

APPENDIX D

DEFINITIONS OF PERFORMANCE MEASURES*

1. RETURN ON CAPITAL EMPLOYED (%)	=	$\frac{\begin{array}{l} \text{Net Profit Before Taxes} \\ + \text{Interest on Borrowed Capital} \\ - \text{Income from Outside Investments} \\ \text{Ending Capital and Surplus**} \\ + \text{Long Term Liabilities + Bank Loans***} \\ - \text{Outside Investments} \end{array}}{\text{Ending Capital and Surplus**}}$
2. NET PROFIT BEFORE TAXES AS % NET WORTH (%)	=	$\frac{\text{Net Profit Before Taxes}}{\text{Ending Capital and Surplus**}}$
3. TOTAL ASSETS TO NET WORTH (X)	=	$\frac{\text{Ending Total Assets}}{\text{Ending Capital and Surplus**}}$
4. NET PROFIT BEFORE TAXES AS % TOTAL ASSETS (%)	=	$\frac{\text{Net Profit Before Taxes}}{\text{Ending Total Assets}}$
5. NET PROFIT BEFORE TAXES AS % NET SALES (%)	=	$\frac{\text{Net Profit Before Taxes as}}{\text{Net Sales}}$
6. NET PROFIT BEFORE TAXES AS % NET SALES (LIFO ADJ; %)	=	$\frac{\begin{array}{l} \text{Net Profit Before Taxes} \\ + \text{Additions to (Deletions from)} \\ \text{LIFO Reserve} \end{array}}{\text{Net Sales}}$
7. NET SALES TO TOTAL ASSETS (X)	=	$\frac{\text{Net Sales}}{\text{Ending Total Assets}}$
8. WHSE PRINT PAPER GROSS MARGIN AS % WHSE PRINT SALES (%)	=	$\frac{\begin{array}{l} \text{Gross Trading Margin on Whse} \\ \text{Print Paper Sales} \end{array}}{\text{Total Whse Print Paper Sales}}$
9. WHSE & INDIRECT PRINT PAPER GROSS MARGIN AS % WHSE & INDIRECT PRINT PAPER SALES (%)	=	$\frac{\begin{array}{l} \text{Gross Trading Margin on Whse \&} \\ \text{Indirect Print Paper Sales} \end{array}}{\text{Total Whse \& Indirect PP Sls}}$
10. DIRECT PRINT PAPER GROSS MARGIN AS % DIRECT PRINT PAPER SALES (%)	=	$\frac{\begin{array}{l} \text{Gross Trading Margin on Direct} \\ \text{Print Paper Sales} \end{array}}{\text{Total Direct Print Paper Sales}}$
11. WHSE INDUSTRIAL PAPER GROSS MARGIN AS % WHSE INDUSTRIAL PAPER SALES (%)	=	$\frac{\begin{array}{l} \text{Gross Trading Margin on Whse} \\ \text{Industrial Paper Sales} \end{array}}{\text{Total Whse IP Sales}}$

*See the survey questionnaire for definitions of data inputs to these measures.

**Capital and Surplus = Common Equity = Net Worth.

***Bank Loans Due in Less Than One Year was added to the denominator in 1978.

12. WHSE & INDIRECT INDUSTRIAL PAPER GROSS MARGIN AS % WHSE & INDIRECT IP SALES (%)	=	$\frac{\text{Gross Trading Margin on Whse \& Indirect Industrial Paper Sales}}{\text{Total Whse \& Indirect IP Sales}}$
13. DIRECT INDUSTRIAL PAPER GROSS MARGIN AS % DIRECT INDUSTRIAL PAPER SALES (%)	=	$\frac{\text{Gross Trading Margin on Direct Industrial Paper Sales}}{\text{Total Direct IP Sales}}$
14. WAREHOUSE & INDIRECT SALES AS % TOTAL SALES (%)	=	$\frac{\text{Whse \& Indirect Sales}}{\text{Total Net Sales}}$
15. PERCENT SALES CHANGE OVER PRIOR YEAR (%)	=	$\frac{1986 \text{ Sales} - 1985 \text{ Sales}}{1985 \text{ Sales}}$
16. NET SALES PER EMPLOYEE (\$000)	=	$\frac{\text{Total Net Sales}}{\text{Av. Total No. of People Employed*}}$
17. GROSS MARGIN PER EMPLOYEE (\$000)	=	$\frac{\text{Total Gross Margin}}{\text{Av. Total No. of People Employed*}}$
18. TOTAL PAYROLL AS % GROSS MARGIN (%)	=	$\frac{\text{Total Payroll}}{\text{Total Gross Trading Margin}}$
19. SALES SERVICE & SELLING EXPENSE AS % GROSS TRADING MARGIN (%)	=	$\frac{\text{Total Sales Service Expense} + \text{Total Selling Expense}}{\text{Total Gross Trading Margin}}$
20. TOTAL OPERATING EXPENSES AS % GROSS TRADING MARGIN (%)	=	$\frac{\text{Total Operating Expenses}}{\text{Total Gross Trading Margin}}$
21. PRINT PAPER INVENTORY TURNOVER (WHSE ONLY; %)**	=	$\frac{\text{Total Whse Print Paper Cost of Goods Sold}}{[\text{Beginning of PP Inventory} + \text{Ending PP Inventory}] / 2}$
22. GROSS MARGIN RETURN ON ON PRINT PAPER INVENTORY (WHSE ONLY; %)**	=	$\frac{\text{Total Whse Print Paper Gross Trading Margin}}{[\text{Beginning of Print Paper} + \text{Ending PP Inventory}] / 2}$
23. INDUSTRIAL PAPER INVENTORY TURNOVER (WHSE ONLY; X)**	=	$\frac{\text{Total Whse Industrial Paper Cost of Goods Sold}}{[\text{Beginning IP Inventory} + \text{Ending IP Inventory}] / 2}$
24. GROSS MARGIN RETURN ON INDUSTRIAL PAPER INVENTORY (WHSE ONLY; %)**	=	$\frac{\text{Total Whse Industrial Paper Gross Trading Margin}}{[\text{Beginning IP Inventory} + \text{Ending IP Inventory}] / 2}$
25. DAYS SALES IN ACCOUNTS RECEIVABLE ON NOVEMBER 30 (DAYS)	=	$\frac{[\text{Trade Notes \& Accounts Receivable on Nov. 30, 1986}] \times 61}{\text{Credit Sales for Oct. \& Nov., 1986}}$

*See survey questionnaire for a definition of total personnel.

**Indirect sales were excluded from warehouse sales for 1978-81 but not for 1977.

APPENDIX E

MAJOR CHANGES IN THE NPTA/MFI SURVEY

RECOGNITION OF INDIRECT SALES IN THE 1978 AND LATER SURVEYS

A major change was made in the NPTA Survey starting with the 1978 data year. A new category of sales, namely, indirect sales was indentified.

The Survey Form asked the participants to identify warehouse, indirect and direct sales of both printing and industrial type papers separately. The reason for this modification is that indirect sales (also called special order or in-and-out sales) have revenue and expense factors that are different from those of warehouse sales. In addition, indirect sales can have a major impact on areas such as inventory turnover. If indirect sales are counted as straight warehouse sales, they can result in a misleadingly high value for inventory turnover and a perhaps misleadingly low value for warehouse expenses.

In the company PAR, inventory turnover values were calculated both including and excluding indirect sales. In Paper Merchant Performance, only the "warehouse only" inventory turnover measure is presented in the exhibits and tables. However, other measures are discussed in the text as appropriate.

As shown below for the 1978 Survey, only about half the survey forms included warehouse and indirect sales data:

	Number of Forms Reporting Data			
	Printing	Industrial	Dual	Total
Both Warehouse and indirect Sales Data Supplied Separately	42	32	33	107
Only Total Warehouse and Indirect Sales Data Supplied	75	78	55	208

The same pattern holds for gross profit data. Thus, the more detailed "warehouse" and "indirect" sales based measures related to sales mix, gross margin, and inventory turnover should be used with care.

LIFO ADJUSTMENTS IN THE 1978 AND LATER SURVEYS

First, the LIFO method inventory valuation can create significant distortions in various performance measures, such as gross margin, net profit margin, and inventory. In response to this problem, a number of new measures that adjust for the LIFO reserve and thus put everyone on an equal reporting basis have been added to the PAR. A thorough discussion of just how this was done is outlined in Appendix F.

In addition to all the new adjusted measures, there were two calculation changes. They are:

Net Profit Before Tax -- % Total Assets (adj.)
Net Profit Before Tax -- % Net Worth (adj.)

The total amount of ending LIFO reserve was added to ending assets and ending net worth for the calculation of both of these measures. This is discussed in Appendix F.

INVENTORY IN THE 1978 AND LATER SURVEYS

Another improvement in 1978 appearing in the company PAR was the use of average monthly inventory in calculating a number of new inventory management measures. Because inventories tend to fluctuate during the year due to the seasonable nature of business, the use of an average monthly figure is often more accurate in determining turnover than using the average of beginning and ending inventories.

One of the more significant inventory measures is the Turn and Earn Profitability Index. Turn & Earn is a combined inventory and gross margin performance measure. It is a product of Gross Margin Percent On Sales and physical Inventory Turnover (rather than Warehouse Sales To Inventory) as follows:

$$\begin{aligned} \text{Turn \& Earn Profitability Index} &= \frac{\text{Gross Margin on Warehouse (and Indirect) Sales}}{\text{Whse (and Indirect) Sales}} \times \frac{\text{Warehouse (and Indirect) Cost of Goods Sold}}{\text{Average (Monthly) Inventory}} \\ &= \text{Gross Margin \% On Whse (and Indirect) Sales} \times \text{Inventory Turnover Ratio} \\ &= \text{"EARN"} \times \text{"TURN"} \end{aligned}$$

Here, also, inventory is assumed to support warehouse and indirect sales. Therefore, warehouse and indirect gross profit and warehouse and indirect sales are used in the calculation.

The T&E Profitability Index can be used to obtain a first approximation of the profitability of carrying different product lines. Even though it does not consider differences in operating expenses or the other-than-inventory investment requirements associated with competing product lines, it usually provides considerable insight into the relative profitability of handling different product lines.

For the most part, these more refined measures appear in the company PARs received by individual firms but are not included in the Paper Merchant Performance.

ADDITIONS APPEARING IN COMPANY PARS INTRODUCED WITH THE STUDY OF 1980 DATA

ASSET MANAGEMENT

1. AVERAGE NUMBER OF YEARS ON LIFO
2. DAYS SALES IN AVERAGE MONTHLY IP (or PP) INVENTORY
3. AVERAGE COLLECTION PERIOD (AVERAGE MONTHLY A/R; DAYS)
4. AVERAGE MONTHLY ACCOUNTS RECEIVABLE TURNOVER (X)
5. RETURN ON AVERAGE MONTHLY ACCOUNTS RECEIVABLE INVESTMENT
6. AVERAGE PAYMENT PERIOD (AVERAGE MONTHLY ACCOUNTS PAYABLE)

WAREHOUSE ONLY

7. COST OF WAREHOUSE GOODS SOLD/AVERAGE INVENTORY (X)
8. WAREHOUSE GROSS MARGIN RETURN ON AVERAGE INVENTORY (%)
9. TURN & EARN PROFITABILITY INDEX (WHSE;%)

WAREHOUSE & INDIRECT

10. COST OF WAREHOUSE & INDIRECT GOODS SOLD/AVERAGE INVENTORY (X)
11. WAREHOUSE & INDIRECT GROSS MARGIN RETURN ON AVERAGE INVENTORY (%)
12. TURN & EARN PROFITABILITY INDEX (WAREHOUSE & INDIRECT;%)
(In the past, all the above measures have been provided on a non-LIFO basis; that is, all firms adjusted to a FIFO basis. This year the above measures have been added, which mix data on both LIFO and FIFO bases, allowing you to make comparisons.)

OTHER MEASURES

13. NET SALES TO TOTAL ASSETS (ADJ; X)
14. TOTAL ASSETS TO NET WORTH (ADJ; X)
(These well-known measures have been calculated on a non-LIFO basis. "Adj" means LIFO firms have been adjusted to a FIFO basis and then all firms considered together. The amount of your ending LIFO reserve is added to both Assets and Net Worth before the calculation is done.)
15. CASH DISCOUNTS TAKEN -- % CASH DISCOUNTS GIVEN (%)
16. CASH & CARRY RETAIL SALES AND BACKHAUL REVENUE DETAIL
17. TOTAL OPERATING EXPENSE PER EMPLOYEE (\$000)
18. FRINGE BENEFITS PER EMPLOYEE (\$000)
19. NET EDP EXPENSE -- % NET SALES

CONFIDENTIAL MEASURES

20. COMPENSATION OF HIGHEST (EXCL SALESMEN; \$000)
21. COMPENSATION OF HIGHEST PAID (EXCL SALESMEN -- % SALES)
22. COMPENSATION OF 2ND HIGHEST PAID (EXCL SALESMEN; \$000)
23. COMPENSATION OF 2ND HIGHEST PAID (EXCL SALESMEN -- % SALES)
24. COMPENSATION OF 3RD HIGHEST PAID (EXCL SALESMEN; \$000)
25. COMPENSATION OF 3RD HIGHEST PAID (EXCL SALESMEN -- % SALES)

APPENDIX F

PERFORMANCE MEASURES ADJUSTED FOR LIFO ACCOUNTING

In periods of inflation, the use of a LIFO inventory valuation approach will typically reduce a firm's ending inventory valuation and, thus, also reduce its reported gross profit and net profit before taxes. An increasing number of firms are willing to accept lower accounting profits in order to reduce their taxes and increase their after tax cash flow. Other firms, for a variety of good and sufficient reasons, choose to remain on FIFO or a similar approach.

In order to increase the comparability of the performance measures calculated for LIFO and non-LIFO firms, the LIFO reserves of the LIFO firms are added back to their reported gross profit, net profit, inventory, and other values as appropriate and "LIFO adjusted" measures are calculated. These adjusted measures are then integrated with the unadjusted measures of the non-LIFO (FIFO) firms and new, more comparable performance measures are calculated.

The approach used to calculate the "LIFO adjusted" measures for a typical LIFO firm is illustrated in Tables 1 and 2. Table 1 shows data that a typical firm on LIFO might have reported on its Survey Form (Column A); the "LIFO Adjustments" that would have been made by MFI (Column B); and the firm income statement and balance sheet data "as adjusted" (Column C).

The "as reported" data from Table 1, Column A are used to calculate the unadjusted performance measures shown in Table 2, Column D. The "LIFO Adjusted" performance measures shown in Table 2, Column E are calculated from the "as adjusted" data shown in Table 1, Column C. As discussed above, the "as adjusted" measures for the LIFO firms are combined with unadjusted data from the other participating firms to calculate the various "LIFO adjusted" industry performance measures shown in your company PAR.

TABLE 1
ADJUSTING FOR LIFO INVENTORY VALUATIONS
(Adjustments made before LIFO adjusted performance measures are calculated)

	TYPICAL LIFO FIRM DATA		
	Firm Data As Reported (A)	LIFO Adjustment (B)	Firm Data As LIFO Adjusted (C)
<u>INCOME STATEMENT</u>			
Net Sales	\$15,000,000	0	\$15,000,000
Cost of Goods Sold	13,464,000	-\$90,000 ¹	13,374,000
Gross Trading Margin	\$ 1,536,000	+\$90,000	\$ 1,626,000
Net Profit Before Taxes	\$ 206,000	+\$90,000	\$ 296,000
<u>WAREHOUSE SALES & GROSS MARGIN</u>			
Warehouse Sales	\$ 8,000,000		\$ 8,000,000
Warehouse Cost of Goods Sold	6,800,000	-\$90,000	6,710,000
Warehouse Gross Margin	\$ 1,200,000	+\$90,000	\$ 1,290,000
<u>WAREHOUSE & INDIRECT SALES AND GROSS MARGIN</u>			
W&I ² Sales	\$10,000,000		\$10,000,000
W&I Cost of Goods Sold	7,900,000	-\$90,000	7,810,000
W&I Gross Margin	\$ 2,100,000		\$ 2,190,000
<u>ASSET ITEMS</u>			
Accounts Receivable	\$ 1,560,000	---	\$ 1,560,000
Inventory (Beginning)	\$ 1,300,000	+\$180,000	\$ 1,480,000
Inventory (Ending)	\$ 1,740,000	+\$270,000	\$ 2,010,000
Inventory (Average)	\$ 1,520,000	+\$225,000	\$ 1,745,000
Total Current Assets	\$ 3,500,000	+\$270,000	\$ 3,770,000
Total Assets	\$ 3,800,000	+\$270,000	\$ 4,070,000
<u>LIABILITY & NET WORTH ITEMS</u>			
Total Debt	\$ 2,100,000	---	\$ 2,100,000
Net Worth	\$ 1,700,000	+\$270,000	\$ 1,970,000
<u>LIFO RESERVES</u>			
Beginning LIFO Reserve	\$ 180,000		
Additions to LIFO Reserve	\$ 90,000		
Ending LIFO Reserve	\$ 270,000		

¹All adjustments in this column are developed from the "LIFO Reserve" data appearing at the bottom of Column A.

²W&I = Warehouse & Indirect.

TABLE 2

LIFO ADJUSTED PERFORMANCE MEASURES
(All dollar values in thousands of dollars)

	(D) UNADJUSTED CALCULATION ¹	(E) LIFO ADJUSTED CALCULATION ²
<u>PROFITABILITY PERFORMANCE MEASURES</u>		
<u>Gross Margin</u>	$\$ 1,536 = 10.24\%$	$\$1,536 + \$90 = 10.84\%$
<u>Net Sales</u>	$\$15,000$	$\$15,000$
<u>Gross Margin on Whse Sales</u>	$\$ 1,200 = 15.00\%$	$\$1,200 + \$90 = 16.13\%$
<u>Whse Sales</u>	$\$ 8,000$	$\$8,000$
<u>Gross Margin on W&I Sales</u>	$\$ 2,100 = 21.00\%$	$\$2,100 + \$90 = 21.90\%$
<u>Warehouse & Indirect Sales</u>	$\$10,000$	$\$10,000$
<u>Net Profit Before Taxes</u>	$\$ 206 = 1.37\%$	$\$ 206 + \$90 = 1.97\%$
<u>Net Sales</u>	$\$15,000$	$\$15,000$
<u>Net Profit Before Taxes</u>	$\$ 206 = 5.42\%$	$\$ 206 + \$90 = 7.27\%$
<u>Total Assets</u>	$\$ 3,800$	$\$3,800 + \$270$
<u>Net Profit Before Taxes</u>	$\$ 206 = 12.12\%$	$\$ 206 + \$90 = 15.03\%$
<u>Net Worth</u>	$\$ 1,700$	$\$1,700 + \$270$
<u>LIFO INVENTORY USE</u>		
<u>Ending LIFO Reserve to</u>	$\$ 270 = 15.52\%$	
<u>Ending Inventory</u>	$\$ 1,740$	
<u>Additions to LIFO Reserve</u>	$\$ 90 = 43.69\%$	
<u>As % Net Profit Before Taxes</u>	$\$ 206$	
<u>Additions to LIFO Reserve</u>	$\$ 90 = .60\%$	
<u>As % Net Sales</u>	$\$15,000$	
<u>INVENTORY MANAGEMENT MEASURES</u>		
<u>Cost Whse Goods Sold</u>	$\$ 6,800 = 4.47x$	$\$6,800 - \$90 = 3.85x$
<u>Avg Inventory</u>	$\$ 1,520$	$\$1,745$
<u>Whse Gross Margin³</u>	$\$ 1,200 = 78.95\%$	$\$1,200 + \$90 = 73.93\%$
<u>Return on Avg Inventory</u>	$\$ 1,520$	$\$1,745$
<u>Turn & Earn Profitability</u>		
<u>Index⁴</u>	$15.00\% \times 4.47 = 67.11\%$	$16.13\% \times 3.85 = 62.01\%$

¹(Based on data as reported) and shown in Table 1, Column A.

²(Based on LIFO firm data with LIFO additions or reserves added back as appropriate) as shown in Table 1, Column C.

³Warehouse Gross Profit divided by Average Inventory

⁴"Warehouse Gross Margin (%)" times "Cost of Warehouse Goods Sold to Average Inventory"

TABLE 2 (CON'T)

LIFO ADJUSTED PERFORMANCE MEASURES
(All dollar values in thousands of dollars)

	(D) UNADJUSTED CALCULATION ¹	(E) LIFO ADJUSTED CALCULATION ²
<u>Cost of Goods Sold</u>	$\frac{\$7,900}{\$1,520} = 5.20x$	$\frac{\$7,900 - \$90}{\$1,745} = 4.48x$
<u>Average Inventory</u>		
W&I Gross Margin	$\frac{\$2,100}{\$1,520} = 138.16\%$	$\frac{\$2,100 + \$90}{\$1,745} = 125.5\%$
Return on Avg Inventory		
Turn & Earn Index (W&I)	$21.00\% \times 5.20 = 109.2\%$	$21.9\% \times 4.48 = 91.11\%$

ACCOUNTS RECEIVABLE MGT MEASURES

Gross Margin Return on Accounts Receivable ³	$\frac{\$1,536}{\$1,560} = 98.46\%$	$\frac{\$1,536 + \$90}{\$1,560} = 104.23\%$
Whse Gross Margin Return on Accounts Receivable ⁴	$15.00\% \times \frac{\$15,000}{\$1,560} = 144.23\%$	$16.13\% \times \frac{\$15,000}{\$1,560} = 155.10\%$

¹(Based on data as reported) and shown in Table 1, Column A.

²(Based on LIFO firm data with LIFO additions or reserves added back as appropriate) as shown in Table 1, Column C.

³Total Gross Profit divided by Ending Accounts Receivable

⁴Warehouse Gross Margin (%) times "Total Sales divided by Ending Accounts Receivable"

